

FIFTY-SECOND ANNUAL REPORT
OF THE BOARD OF TRUSTEES
OF THE
OHIO STATE UNIVERSITY
TO THE GOVERNOR OF OHIO
For the Year Ending June 30
1922

THE OHIO STATE UNIVERSITY

HONORABLE HARRY L. DAVIS, *Governor of Ohio, Columbus, Ohio:*

MY DEAR SIR—I have the honor to present to you the annual report of the Board of Trustees of the Ohio State University for the year ending June 30, 1922, as required by law.

Yours very truly,

JOHN KAISER,
Chairman, Board of Trustees.

TABLE OF CONTENTS

	<i>Page</i>
Report of the President.....	5
Report—Dean, College of Agriculture.....	31
Report—Dean, College of Arts, Philosophy, and Science.....	87
Report—Dean, College of Commerce and Journalism.....	96
Report—Dean, College of Dentistry.....	108
Report—Dean, College of Education.....	112
Report—Dean, College of Engineering.....	149
Report—Dean, College of Homeopathic Medicine.....	160
Report—Dean, College of Medicine.....	163
Report—Dean, College of Veterinary Medicine.....	169
Report—Dean, Graduate School.....	174
Report—Director, Student-health Service.....	185
Report—Director, Physical Education.....	192
Report—Y. M. C. A.....	204
Report of the Trustees—Financial.....	209
Appendixes—	
I. Board of Trustees.....	214
II. Administrative Officers.....	214
III. Faculty, Instructors, and Employes—Salary Roll.....	215
IV. Work of Instructors—Departmental Reports.....	242
V. Degrees Conferred since the founding of the University.....	265
VI. Student Enrollment.....	267
VII. Degrees and Certificates granted during year 1921-1922.....	268
VIII. Religious Census of Students; Occupations of Parents; Enrollment by Counties of Ohio; Enrollment by States and Foreign Countries.....	299

ANNUAL REPORT OF THE PRESIDENT

HONORABLE JOHN KAISER, *Chairman of the Board of Trustees,
The Ohio State University:*

DEAR SIR—I have the honor to present through you to the Board of Trustees of the Ohio State University for transmission to the Governor of Ohio, as required by law, the fifty-second annual report of the President of the Ohio State University, for the year ending June 30, 1922.

THE BOARD OF TRUSTEES

Since the last annual report, two of the Trustees have been reappointed. Honorable John F. Cunningham of Cleveland, whose original appointment was dated December 22, 1914, and whose term expired May 13, 1922, was reappointed for the full term of seven years. Honorable John Kaiser of Marietta, whose original appointment was of date February 25, 1915, and whose term expired May 13, 1922, was reappointed for a term of seven years, expiring May 13, 1929.

The reappointment, within the last three years, of three Trustees whose terms had expired, gives great hope for the continuity of the board. This policy has been frequently commented upon in the Annual Report but may be mentioned again, for the reason that the growing problems of the University require a familiarity with policies and precedents not easily acquired in a brief time. The more intimate acquaintance of the Trustees with the important features of the University policies enables them to reach their conclusions with greater intelligence and to project new policies, based upon the results of experience.

FRANK A. DERTHICK

The following minute was adopted by the Board of Trustees at the meeting held January 10, 1922, and is inserted in this Annual Report as a matter of permanent record and tribute:

Mr. Derthick served as Trustee to fill an unexpired term beginning 1904 and ending 1909. His large experience as a practical farmer, as Master of the State Grange, and in the study of Rural Education, added to his native qualities of heart and mind, enabled Mr. Derthick to bring to the service of the University an unusual equipment. His experience demonstrated the wisdom

of the appointment and his association with the Board of Trustees brought to him an increasing affection and esteem as the years passed. His fine character and his unselfish devotion to duty are held in grateful memory by all who were fortunate enough to be associated with him.

Mr. Derthick was born at Copley, Summit County, Ohio, January 3, 1844, and died at his home near Mantua in Portage County on January 4, 1922, on the farm where he had lived for fifty-five years. The Trustees record with gratitude this brief note of appreciation of his character and service.

In addition to the above, it will be of interest to some to recall the article in *The Ohio Farmer* of December 10, 1921, in which Mr. Derthick addressed himself to hundreds of correspondents in a brief letter of acknowledgment. This letter revealed the quality of the man in an unusual manner. His services to the Ohio State University were freely given, his motives were of the highest, and his efficiency as a Trustee was recognized by all who were acquainted with the University during his term of service. His sterling integrity, his keen sense of humor, his kindly consideration of others, and his range of intelligence commanded the admiration and esteem of all his colleagues.

THE FACULTY

During the past year few important changes have occurred in the Faculty. Following the usual custom, leaves of absences were granted for a portion of the year to Miss Elisabeth Conrad, Dean of Women, who attended the convention of the World's Student Conference at Peking, China, from February until June. Professor William L. Graves of the Department of English was granted leave of absence for the second semester. Professor Joseph A. Leighton of the Department of Philosophy was also granted leave for the second semester. Professor George R. Twiss of the Department of Principles of Education has been granted leave of absence for two years to serve the Government in educational work in China. The experience of Professor Twiss in similar service for the Government in other years has fitted him especially well for this kind of service, although his absence from the University for such extended periods is somewhat seriously felt. The desire to co-operate with other governmental agencies has led the University to be somewhat more than generous in granting leave of absence to individual members of the Faculty. It is quite easy, however, to develop a habit of this sort, in which most of the advantages are with the Federal Government and most of the embarrassments with the local institution.

In addition to the usual experience in classroom and laboratory, the Faculty has been interested in a consideration of the

social life of students and the use of leisure time. Conditions are substantially the same at all large colleges. The university life in a measure reflects the prevailing tendencies in the city or community. The college is no longer an isolated community. Students are influenced by their environment and participate in the prevailing social customs. A considerable number are resident in a large city and find a certain conflict of interest between college and community demands. The standards of college life are apt to be more exacting. Any violation of these standards will be taken more seriously than in the community for the very definite reason that the University is primarily an educational and not a social institution. It seems impossible for some persons ever to see this distinction. The University Faculty is a unit in the endeavor to inculcate the ideas of responsibility on the part of the student and to accept no fictitious or specious excuse for non-performance of academic obligations.

In this effort the Faculty has the co-operation and support of the officers of student organizations to a very gratifying degree. In the main, student sentiment will be the corrective of greatest efficiency. The parental and disciplinary theories have a limited application arising out of the limitation of information. Student sentiment on the other hand is a pervasive influence always at work preventing and correcting undesirable conditions. Student conduct has greatly changed and improved in the past twenty years, but will ever remain a hopeful and unsolved problem.

During the year the University Faculty provided for the general use of the point system which had already been adopted by certain of the Faculties. This device weighs the several passing marks or symbols, so that an incentive is provided for a student to strive for something more than a mere passing mark. The movement was frankly an attempt to stimulate a higher grade of scholarship through a more exacting requirement for a degree. The belief was quite general that too many students received degrees with a large part of their work of little more than passing grade. The point system makes it possible to deny the degree to students whose work has been uniformly of low grade, even though passing. The introduction of granting a degree "with distinction" was intended to act as a further incentive to high-grade work. There is yet lacking some provision by which the superior student may win his degree in a shorter time and also some liberty in his study. University teaching will always provide for the average student. That is a necessity and cannot be avoided.

The superior student should be given an opportunity to reach his goal unhindered by the drag of average mediocrity in his class-

mates. The prevailing educational system has been adjusted to the capacity and needs of the majorities. The universities of the future should provide some pathway for the unusual student.

UNIVERSITY ATTENDANCE

The Ohio State University, like most other universities of the country, has had the experience in recent years of a very rapid growth in the student attendance. Reference to the statistics in the appendix of this report will reveal the situation from year to year. The exact number, however, of students at a particular institution is not of vital importance. The real issue is an educational one. There are those who believe that too many people are seeking higher education. They would limit the attendance by one device or another in the hope of securing better educational results with a limited number of students. There is very much that can be said from the point of view of higher education for the few, but that is not the point of view of modern democracy. The educational philosophy of the present day comprises a system of public education from the elementary grades through the university and, in addition to this, provision for professional education in Law and Medicine. For a number of years in Ohio, a definite policy has been pursued and maintained of increasing the efficiency of the public high school. Mandatory features have been introduced and legislation has been enacted protecting the child and youth up to the age of sixteen under certain conditions, thus opening the way for larger participation in elementary education by the masses of the children. The doors of the high schools have been opened wider and a provision made for high-school students such as never has been realized before in the history of the world. Add to this the increasing financial ability of the people to educate their children and we have a sufficient basis on which to assume that the ambitions of the country will be for the education of a still larger percentage of the youth. Notwithstanding the alarm sometimes sounded by people living in the centers of university populations, the fact remains that a very small percentage of the entire population has yet been able to avail itself of the advantages of higher education. That percentage is certain to increase in the future. No devices invented by faculties or other organizations of educators will prevent the increasing tide of young men and young women who desire higher education. If the existing institutions do not provide for these people, then other institutions will be organized to meet their needs. No generation can escape the responsibility of making provision for the commendable ambition on the part of

the young men and young women, and of the families from which they come. Unless we are to assume that education is for the few, then a larger provision must be made for the increasing numbers of the future.

The problems presented by ever increasing attendance at colleges are by no means simple. The Ohio State University, like many other institutions, has been compelled, under emergency measures, to be content with such facilities as were available at the time and to do the best that could be done under existing conditions. It has been difficult to provide physical facilities in the way of classrooms and laboratories, and equally difficult to provide an adequate and suitable teaching force. The most important task any university has is the selection of a competent faculty, inspired with proper ideals of education and devoted to the every-day, routine tasks of the classroom. The more highly specialized universities become and the greater the number of courses offered, the more limited is the number of men and women available for teaching. Attention has well been directed by President Coffman of the University of Minnesota to the danger of graduating students with what some have called "split and partial minds," students whose "intellectual attitudes are undisciplined and extemporaneous." He remarks that it is patent to the student of education that the whole field of knowledge has been developed so frequently for the purpose of creating special subjects to meet assumed needs that a thoroughly sound education may be denied many students. The splitting of the materials of education into a multiplicity of subjects results in an overemphasis of the materials occurring within a given field and necessarily leaves the student with a fragmentary conception of nearly every field.

This comment of President Coffman's suggests a growing tendency, as the study of any university catalogue will disclose. A careful study of why a university exists, by the men and women who are chiefly responsible for its educational ideals, would be fruitful of many good things. It is probably hopeless, however, to assume that any faculty in any university in the country will ever conduct an investigation of its own activities. The interest of university faculties, for two decades past, has been to develop an intensive interest in narrow fields of study on the part of the individual professors and thus to preclude them from the possibility of a comprehensive study of education. In addition to this, the burdensome and troublesome details of administration involve important members of the faculty in a great waste of time through service on committees. The flood of student attendance has de-

veloped innumerable problems of courses of study, adequate teaching force, adjustment of students to their work and an endless amount of social service. The responsibility assumed for the matter of records, to speak of nothing else, has made the modern university a hive of industry, in purely clerical service. The increase in student attendance has aroused popular interest to the point where everybody seems determined to make inquiries about colleges and universities until it has become necessary to know pretty nearly the last detail of the individual life of students and of the record they make in ordinary student experiences. This factor has added largely to the expenses of university administration. The prospect is not at all reassuring for any decrease in the expense of this feature of university life.

Meantime the increase of student attendance throughout the country has developed a highly competitive situation for teachers. Practically every university in the country is on the outlook for teachers. Most of them are not preparing their own teaching staff and are dependent upon such persons as may be available in other institutions. This situation will increase the demand for salaries and add to the difficulty of maintaining a competent body of teachers.

This situation presents a most practical and acute problem for the Legislature. By the authority of law all properly qualified students as determined not by the University but by the State may enter the University. This law was enacted from the highest motives and in the belief that the State owed to every student at least an opportunity to proceed from grade to grade with his education. The terms too are uniform and should be honestly administered. So far experience has demonstrated an increasing demand upon colleges. The Legislature is therefore brought face to face with the logic of its own legislation. The law is presumed to be in accord with public sentiment. The supply of students comes through the legally established schools with the support of the people. The University therefore speaks in the name of the parents when it suggests to the Legislature the necessity of making adequate provision for the education of their children.

ENROLLMENT STATISTICS, DEGREES GRANTED, ETC.

Reference is here made to the appendices in this report for information upon the enrollment, degrees granted, and other questions usual in such statistics. Attention is directed to the significant fact that the enrollment of the University comprises students from every county in the State. It is also noticeable that the most

populous counties are sending the largest numbers of students, Franklin County, of course, heading the list, because of its immediate population, with 2,747. Cuyahoga County is second with 599. There are 179 from Montgomery County, 117 from Mahoning, 114 from Stark, 113 from Lucas, 106 from Summit, 105 from Licking. A number of other counties show attendance ranging from 60 to well nigh 100.

Notwithstanding the non-resident fee of \$100.00 in addition to the usual fees, a considerable number of students continue to come from outside the State of Ohio. There were 22, for example, from China. The number enrolled from some of the other states was as follows: Pennsylvania 75, West Virginia 71, Indiana 66, New York 40, Kentucky 25, and Massachusetts 12.

The time has now arrived when children of alumni are returning in considerable numbers to the University. These alumni are resident all over the country and some of them live in foreign countries. The non-resident fee probably will act as a discouragement to many of these alumni, as well as to other people. The University would be the stronger from the sentimental point of view if some encouragement could be given for the children of alumni to come to the University. It is doubtful whether the non-resident fee, in such cases, is worth what it costs.

The occupational statistics continue to reveal the widespread service of the University. These statistics disclose that 1,224 are children of farmers and 449 are children of merchants. The classification of these occupations is somewhat extensive, but a number of them show that the children of the workers in the industrial activities of the State are coming to the University in very considerable numbers. For example, 189 are children of contractors, 186 of engineers, 141 of artisans, 210 of accountants, 219 of State and City officials, 183 of manufacturers, 226 of physicians and surgeons, 222 of railroad employes, 292 of salesmen, 276 of superintendents and managers. This list of the occupations of parents is a most illuminating comment on the service of the University.

From another point of view, the religious census reveals the same general situation. The attendance in the University is composed of practically every type of religious belief represented in the State. The atmosphere and sentiment of the University is free from any disposition to interfere with religious faith or to suppress the religious life of students. On the other hand, every encouragement is given for an expression of the religious life of the students on the general principle that religious liberty, like civil liberty, develops best under freedom of opportunity. The University would

not undertake to control religious beliefs, nor would it intimate that the State is not profoundly interested in the religious and moral character of its citizenship. Great care is always necessary, in order that the freedom of the State be not abused either in the advocacy of sectarian principles or in the freedom of opportunity to speak of religious beliefs as held by students or by a community. The high obligation of integrity on the part of the University and all its teachers may not always be recognized as keenly as may be desirable, but it may be safely said that offenders on one side or the other are few and do not commend themselves by such offenses to public opinion on the campus.

The number of degrees granted in June, 1922, was larger than in any previous year. There is some probability that the attendance developed after the close of the war has passed and that the graduating classes from this time on will represent a more stable current. The introduction of the four-quarter plan may distribute the degrees somewhat throughout the year but will probably tend toward increasing the number of students who will within a given twelve months receive degrees from the University. The better distribution of attendance which is possible under the four-quarter plan, when once appreciated, will tend to increase the quantity of service rendered by the University.

The statistics of Commencement will be found in the appropriate appendix made a part of this record. One of the most gratifying features of the statistics will be the large number of graduate degrees granted and the obvious effect of this service upon the teaching profession of the State.

LEGAL EDUCATION

For the purpose of record and of comment, the following action taken February 24, 1922, at the City of Washington, D. C., is submitted herewith as a part of this report:

Resolved, That the National Conference of Bar Associations adopts the following statement in regard to legal education:

1. The great complexity of modern legal regulations requires for the proper performance of legal services lawyers of broad, general education and thorough legal training. The legal education which was fairly adequate under simpler economic conditions is inadequate today. It is the duty of the legal profession to strive to create and maintain standards of legal education and rules of admission to the bar which will protect the public both from incompetent legal advisers and from those who would disregard the obligations of professional service. This duty can best be performed by the organized efforts of bar associations.

2. We endorse with the following explanations the standards with respect to admission to the bar, adopted by the American Bar Association on September 1, 1921:

Every candidate for admission to the bar should give evidence of graduation from a law school complying with the following standards:

(a) It shall require as a condition of admission at least two years of study in a college.

(b) It shall require its students to pursue a course of three years' duration if they devote substantially all of their working time to their studies, and a longer course, equivalent in the number of working hours, if they devote only part of their working time to their studies.

(c) It shall provide an adequate library available for the use of the students.

(d) It shall have among its teachers a sufficient number giving their entire time to the school to insure actual personal acquaintance and influence with the whole student body.

3. Further, we believe that law schools should not be operated as commercial enterprises, and that the compensation of any officer or member of its teaching staff should not depend on the number of students or on the fees received.

4. We agree with the American Bar Association that graduation from a law school should not confer the right of admission to the bar, and that every candidate should be subjected to examination by public authority other than the authority of the law school of which he is a graduate.

5. Since the legal profession has to do with the administration of the law, and since public officials are chosen from its ranks more frequently than from the ranks of any other profession or business, it is essential that the legal profession should not become the monopoly of any economic class.

6. We endorse the American Bar Association's standards for admission to the bar because we are convinced that no such monopoly will result from adopting them. In almost every part of the country a young man of small means can, by energy and perseverance, obtain the college and law-school education which the standards require. And we understand that in applying the rule requiring two years of study in a college, educational experience other than that required in an American college may, in proper cases, be accepted as satisfying the requirement of this rule, if equivalent to two years of college work.

7. We believe that the adoption of these standards will increase the efficiency and strengthen the character of those coming to the practice of law, and will therefore tend to improve greatly the administration of justice. We therefore urge the bar associations of the several states to draft rules of admission to the bar carrying the standards into effect and to take such action as they may deem advisable to procure their adoption.

8. Whenever any state does not at present afford such educational opportunities to young men of small means as to warrant the immediate adoption of the standards, we urge the bar associations of the state to encourage and help the establishment and maintenance of good law schools and colleges, so that the standards may become practicable as soon as possible.

9. We believe that adequate intellectual requirements for admission to the bar will not only increase the efficiency of those admitted to practice but will strengthen their moral character. But we are convinced that high ideals

of professional duty must come chiefly from an understanding of the traditions and standards of the bar through study of such traditions and standards and by the personal contact of law students with members of the bar who are marked by a real interest in younger men, a love of their profession, and a keen appreciation of the importance of its best traditions. We realize the difficulty of creating this kind of personal contact, especially in large cities; nevertheless, we believe that much can be accomplished by the intelligent co-operation between committees of the bar and law-school faculties.

10. We therefore urge courts and bar associations to charge themselves with the duty of devising means for bringing law students in contact with members of the bar from whom they will learn, by example and precept, that admission to the bar is not a mere license to carry on a trade, but that it is an entrance into a profession with honorable traditions of service which they are bound to maintain.

The standards set up in the above communication have been in force for some time in the Ohio State University. Two years of academic collegiate education are required for admission to the College of Law and, in addition thereto, certain honors are assigned to students who receive both degrees or whose education is somewhat more advanced than would be indicated by two years of college work. The policy of the University has been not only to meet the standards as above indicated but also to provide additional incentives to young men and women aspiring to become members of the legal profession.

Attention, however, should be directed to the fact that no examination yet devised is able to assure legal education or to protect the public against men of inadequate preparation. So long as men who have not met the educational standards outlined above may appear before the examining authorities there will be a large number of people quick enough and smart enough to pass any examination that may be prepared. Success in passing examinations is an unsatisfactory indication of educational quality. It simply demonstrates that special preparation to meet an examination can be made within a few months and most of the legal requirements met. The fact that the control of the eligibility for taking examinations lies in the Legislature or in the Supreme Court renders it necessary to bring such authorities to the support of educational standards as announced by the American Bar Association and other conferences on legal education. The fallacy that an examination is proof of education or of fitness still abides in the minds of many people. So long as such principles continue it is doubtful whether the adoption of educational standards will do any more than to demonstrate to the public the superiority of educated men. There would seem to be no effective method of protecting the public against what is commonly called the shyster in the practice of law.

The same principle obtains concerning the men known as quacks in the medical profession. The truth is that character, which is the guarantee of any profession, cannot be provided through any process of examination. The struggle toward better ideals in the profession is worthy of the highest commendation. But so long as commercial enterprises can equip men for the practice of a profession and the one test of their fitness is a formal examination we must expect a large percentage of the profession to be men of unequal education and oftentimes of unreliable character. The protection against such a situation lies in the education of the public as to the importance of the lawyer as an officer of the court under oath to serve the public interest. Such appointment is significant to the men of character; to all others it is simply a means to an end.

THE LIBRARY

The situation in the Library is somewhat discouraging. The advance in the prices of books and of all publications has made it impossible to purchase as many books as heretofore with a given amount of money. Moreover, the actual money appropriation for the last two years has been decreased. During the past year, one of our neighboring state universities purchased forty thousand volumes. The money available for our Library for such purposes was about \$16,000.00. The average cost of a volume in these days is probably not less than \$3.00. It is obvious, therefore, that an appropriation such as was available for the Ohio State University enforces a great many limitations. Furthermore, the number of scientific and technical magazines should be greatly increased. These are oftentimes the bearers of the most recent results in research and of the current history of the progress of science.

A recent report was submitted to the President by a large committee of the Faculty, urging that, for the next biennium, an appropriation of \$100,000.00 annually be made for the Library. The facts on which this request was based grew out of comparison with other similar State institutions and looked toward such an extension of our Library facilities as would put our Library in a position comparable to that of the state universities of the Middle West. It may be of interest here to note that the Ohio State University Library contains 228,661 volumes. The University of Michigan has 457,847 volumes and the University of Wisconsin, with the Library of the Wisconsin Historical Association in the same building, a total of 507,800 volumes available for University purposes. The University of Illinois has 456,503 volumes. These comparisons will suggest the importance of University Libraries

in the Middle West. In general it may be said that these University Libraries are the important centers in all these states and will eventually become the largest libraries for scholars in the several states. Ohio has a number of important libraries in her cities, under private control, or under the control of her colleges and universities. The University, however, cannot depend upon these resources for prosecution of the work required both by Faculty and students. The Library is a great laboratory of research in practically all the subjects of study. A limitation here simply blocks the efforts of both students and Faculty and renders the work incomplete and unsatisfactory. The urgent character of the demand for an increase in Library facilities may not easily be overstated. The hope is here expressed that a more generous provision will be made in the coming biennium appropriations.

ENDOWMENTS

There have been a few small endowments provided by individuals for the University. It would be a matter of great satisfaction if generous people would increase these endowments and thus make a perpetual provision of considerable amount for the maintenance of a library. Endowments are permanent. They abide through the years. They enter into no competition with other funds. Supplementary endowments never interfere with existing foundations or endowments. The increase of the general budget of an institution brings competition between departmental requests or between college requests or other forms of University service. In these competitive activities, the more practical phases are apt to be favored, while the idealistic side of the University is apt to be neglected. Many people regard a library as a luxury. As a matter of fact, it is a vital necessity. Endowment funds, the interest of which could be perpetually used for the improvement of the Library, would constitute an element of security that never could be disturbed. The growth and progress of state universities would seem to invite attention of generously disposed persons to provide endowment funds for specific uses in the state universities. Legislatures may be depended upon to take reasonable care of current expenses and will ordinarily provide the buildings needed for students, even though the provision be somewhat tardy. There are features, however, about a university, among which the library is worthy of mention, that are apt to receive scant attention or consideration. Nothing could be more helpful to the University than a considerable endowment fund, assigned for the Library, and the hope is here expressed that before many years pass a number

of people having both ability and disposition will respond to this suggestion and provide a reasonable endowment upon which the Library may rest securely for the future.

THE BUREAU OF EDUCATIONAL RESEARCH *

Perhaps the most distinctive feature of the progress of the year may be mentioned as the establishment of the Bureau of Educational Research under the directorship of Professor B. R. Buckingham, Ph. D. It may be of interest to give a little history of the movement at this time.

During the administration of Governor James M. Cox in 1913, considerable interest was developed in the situation in the rural schools. On February 26, 1913, the Ohio General Assembly created a School Survey Commission. November 14, 1913, was, by proclamation of the Governor, appointed a School Survey Day. This was observed quite generally throughout the State by the holding of popular meetings in the interest of better schools. The enthusiasm and interest aroused during the year was perhaps unparalleled in the history of public education in Ohio.

In January, 1917, the Survey Commission submitted a formal report to the Governor, the outcome of which was some new legislation in the interest of better schools and an aroused public sentiment. The Survey Commission recommended the establishment of departments of investigation in the several state institutions and in the office of the Superintendent of Public Instruction. In accordance with this recommendation, the following statute was enacted (sections 7654-6, Ohio School Code) :

There shall be established in the College of Education of the Ohio State University and in each of the normal schools and colleges which are maintained wholly or in part by state funds, a department of efficiency tests and surveys. Such department shall, at the request of the Superintendent of Public Instruction, assist him in working out efficiency methods in school administration, and in conducting co-operative school service.

This legislation provides the foundation for the character of work undertaken by the Bureau of Educational Research. Unfortunately, the Legislature made no appropriation for this service. The interest, however, in the matter of efficiency tests, surveys, and educational methods continued to increase from year to year. Meantime the Superintendent of Public Instruction became more and more interested in and concerned about the situation and urged the establishment of a bureau. The outcome of this general discussion was that during this last year the University invited Dr.

B. R. Buckingham to become Director of Educational Research, assembled with him a group of six other persons, and began in a modest way an effort to serve the cause of public education as authorized and suggested by the statute quoted above. The fact that the Legislature had made no provision for this particular service rendered it difficult for the University to extract from the ordinary funds sufficient money to equip the department adequately. As a matter of fact, the equipment is meager. Nevertheless a beginning has been made and a very considerable service has been rendered to the public schools of the state. The report will show that more than sixty projects of a major character have been definitely organized, some of which are being carried through. The report submitted as an appendix herewith will be informing to people who have not given the work of this bureau any attention so far. In the one matter of geography, returns from about 70,000 children have been analyzed and some valuable suggestions are confidently expected when this work shall have been completed. Attention is hereby invited to the report submitted by Director Buckingham for more detailed information. It is appropriate here to remark that the first year of experience has been most gratifying to all interested in the work of the bureau. The educational conferences that have been held have created an unparalleled enthusiasm among the Superintendents and Principals of the State and the belief is here expressed that with reasonable provision for the expenses of the Bureau a large service awaits it.

A request will be made in the biennium budget for a reasonable amount of money with which to carry on the work of this bureau. No similar service is maintained elsewhere in the state and the co-operation of the educators is such as to warrant the statement that adequate provision for this bureau will be amply justified, not only in the results reached but in the encouragement and assistance rendered to public-school men.

COLLEGE OF HOMEOPATHIC MEDICINE

By action of the Trustees, taken June 19, 1922, and by subsequent action on July 11, 1922, the further teaching of Homeopathic Medicine in the Ohio State University has been discontinued. As the record below will show, the hospital closed August 15, 1922, and all further activities will be such as are incidental to the closing up of the work of the college.

Inasmuch as this final action has been taken prior to the writing of this report, it is deemed desirable to make the final report on the College as of the year ending June 30, 1922.

At the meeting of the Trustees on June 11, 1921, a resolution was introduced providing for a committee to make a study of the subject of medical education. The committee was composed of Dr. T. C. Mendenhall, Mr. Lawrence E. Laybourne, and Judge Benjamin F. McCann. The committee proceeded with its work from time to time and finally prepared a majority and a minority report. These reports were presented to the Board of Trustees and, at a meeting held on June 19, 1922, the following action, adopting the majority report, was taken:

(a) That the College of Homeopathic Medicine be discontinued on and after July 1, 1922.

(b) That all buildings, instruments, appliances, and material supplies of all kinds, now the property of the University and occupied or used by said College, be transferred to the jurisdiction of the College of Medicine.

(c) That all students at present enrolled in the College of Homeopathic Medicine shall, upon their individually expressed desire, be registered as students in the College of Medicine, with the grade now held by them in the College of Homeopathic Medicine.

(d) That there be established two additional chairs, elective, in the College of Medicine, one to be known as the chair of Homeopathic Materia Medica and the other as the chair of Homeopathic Practice, the date of such establishment to be from July 1, 1922; and that the President of the University be requested to nominate to the Board of Trustees suitable candidates for these chairs, at his early convenience.

At the meeting of the Board of Trustees held July 11, 1922, the President submitted the following report:

July 5, 1922.

Board of Trustees, The Ohio State University:

Gentlemen—I submit the following report with recommendations for your consideration and action at the meeting to be held July 11, 1922.

The proposals submitted involve a somewhat more radical and different action than that taken by the Trustees June 19. I am willing to assume the responsibility for the recommendations on three accounts:

1. I have failed so far, through personal interview with both sides, to find that the action of June 19 gives promise of being practicable and workable.

2. I am persuaded that the proposal I am making will be more acceptable to the homeopathic profession than any other proposal or than the action already taken.

3. Assuming that the merger is not practicable, then the sooner the University is through with it, the better. The more completely the work is now done, the fewer will be the troubles and vexations for the future.

Supplementary to the action taken by the Board of Trustees at the meeting held June 19, 1922, I therefore recommend:

First, that the further teaching of Homeopathic Medicine be discontinued, effective August 15, 1922.

Second, that the principal sums of money received from all sources be returned to the donors, without interest, said money to be paid from the interest on the endowment fund.

Third, that the transfer of the Hospital and all appliances and materials that go with it be made effective August 15, 1922.

Fourth, that the radium now in the possession of the College of Homeopathic Medicine be returned to Mr. Charles F. Kettering or to such person or persons as may be designated.

Fifth, that all research papers, drawings, and the like, that may be construed practically as personal belongings, although technically the property of the University, but of no special importance to other than the original investigator, be assigned and transferred to the appropriate professor in the College of Homeopathic Medicine.

Sixth, that duplicate records be authorized for the hospital, so that there may remain with the hospital the original records of all cases and, at the same time, a duplicate may be provided for the use of the faculty which had original jurisdiction.

Seventh, that the Homeopathic Library be kept intact and transferred to such persons or organization as may later be determined upon.

Eighth, that special provision be made for Dr. William A. Humphrey, on account of his injury.

Ninth, that a suitable leave of absence with salary be provided for, in the case of such members of the faculty as would ordinarily be entitled to it, under the usual custom of the University.

In view of the above considerations, I have assumed the executive authority of deferring the transfer of the Hospital, as contemplated by the action of June 19, until July 11.

Following the above action, the President, under the instructions of the Trustees reported back to the meeting held August 15, 1922, a preliminary plan, providing for the return of property as stated in the report submitted July 11, 1922, and also for a part salary for the original teaching force, on the basis of the usual leave of absence salaries. Provision was also made for the transfer of all hospital activities to the College of Medicine, under the supervision of Dr. S. A. Hatfield.

The College of Homeopathic Medicine (see report for 1921) was authorized May 26, 1914 and opened in September, 1914. The building known as the "Little Dormitory" was occupied after some repairs, as a temporary hospital. The present building was constructed and opened January, 1917. Subsequently the building first used was occupied as a maternity hospital, and still later, as a children's hospital. A hospital erected in connection with the barracks, for war purposes, was occupied as a maternity hospital until August 1, 1922, when it was turned over to the College of Medicine for a similar purpose.

It may be appropriate here to remark that the action taken by which the teaching of Homeopathic Medicine was discontinued in

no way reflects on the teaching or on the management of the hospital. There has been no adverse criticism of the administration or of the character and efficiency of the Faculty. These men have enjoyed the full confidence of both Trustees and the University Faculty. The change was made, not because of dissatisfaction with the management of either College or Hospital, but on the ground that the operation of two Colleges of Medicine was an illogical procedure and unjustified as a permanent policy. The discussion developed, of course, the differences of opinion concerning the scientific or nonscientific basis of Homeopathic Medicine. This discussion was contributory to the result, but it should not be assumed that the decision was reached on the technical grounds of the scientific or nonscientific basis of homeopathy.

The decision was based upon the question of public policy and the support by the State of two competitive schools of medicine. The students of the College of Homeopathic Medicine have ranked favorably with students in medicine generally and, with one exception the first year, have all passed the necessary state examination, and, so far as may be known, are reputable men in the practice of medicine. In the management of the hospital, high praise is due the service of Miss Jessie Harrod, who from the beginning has served as Superintendent of the Hospital. She began her service in the "Little Dormitory," supervising the preparations, which involved a large amount of drudgery. The Hospital record from the very beginning has shown a high degree of efficiency in its management. The low death rate in the Hospital, not surpassed by any hospital in the city, has attracted the interest and attention of many people. For the year closing June 30, 1922, there were 5,683 patients. During the year there were twenty-three deaths. During the period of the Hospital, Dr. C. A. Burrett alone has performed more than 3,000 surgical operations. These facts will indicate something of the quantity of service rendered by a hospital providing for one hundred and three beds. It may be added, in closing, that Dr. C. A. Burrett, who has served as Dean of the College from the beginning and in charge of the Hospital, has demonstrated his efficiency as an administrative officer and as an educator. His record for the eight years of service when examined will make commendation from any other source entirely unnecessary.

NAMING OF BUILDINGS

During the year the Trustees have decided that the name of the new building for women shall be "Pomerene Hall." This was

in recognition of the late Honorable Frank Etherington Pomerene, an alumnus and Trustee of the University.

The new women's dormitory is to be known as "Mack Hall," in honor of the late Honorable John Tallman Mack, Trustee.

The General Hospital is to be known as "The Lyne Starling Hospital," in honor of the late Dr. Lyne Starling, whose name was so long associated with the Starling Medical College.

The Trustees also decided to honor the memory of Mrs. Elizabeth Owens Campbell, the wife of the Honorable James E. Campbell, former Governor of Ohio and Trustee of the Ohio State University, by naming the building used for Home Economics as "The Elizabeth Owens Campbell Hall." Mrs. Campbell was one of the most gracious hostesses ever associated with the office of the Governor and was deeply interested in the welfare of young women.

STUDENT HEALTH SERVICE

The importance of a stable condition in the health of the student body is increasingly recognized on the part of administrative officers and teachers. The University has available for students of both sexes a suitable health service under the direction of Dr. H. S. Wingert. In addition to this, the University has Dr. J. H. Nichols, a physician, in charge of Physical Education, under whose direction all physical examinations of young men are made. Dr. Ada V. Wright, a woman physician, has rendered a similar service for the young women. All three of these physicians render service by way of counsel and advice. Dr. Wingert renders limited service in the way of care and prescription. The facilities are sufficiently ample to warrant the statement that for all ordinary and temporary ailments and for any emergencies that develop on the campus the above service is available free of charge and is sufficient to insure all reasonable care of the health of the students. The monthly reports submitted to the President reveal the fact that a very large number of students receive some temporary assistance and service. They also disclose the fact that at certain periods of the year slight ailments and seasonal affections appear in considerable numbers. It has been estimated that this service has conserved the time and health of a great many students by shortening the period of their illness or, by prompt and immediate treatment, preventing prolonged sickness. The service is worthy of high commendation and abundantly justifies its maintenance.

LEGISLATIVE APPROPRIATIONS

A study of the appropriation bills by the Legislature for a period of years will reveal the fact of a steadily increasing total. The Legislature has shown a sympathetic attitude toward the University and its needs. The rapid development of the student body and the expansion of the service rendered by the University unite to make an increasing demand upon the treasury. In making the appropriations, however, the Legislature finds it difficult to make a distribution that will provide fully for the needs of the University and at the same time make response to the acute demands for salaries and for buildings. It is worth while in this connection to invite attention to the fact that some very important service is seriously handicapped by the lack of available money. The Ohio State University, for the past twenty years has been extremely modest in announcing its research work or in publishing the results of this research work on the part of members of the Faculty. The time has arrived when more attention should be given this important feature of University activity and when provision should be made, with a reasonable amount of money, for the publication of important contributions to learning. This policy would more than justify itself. An examination of documents and of publications received from other institutions of learning at once reveals a comparison somewhat unfavorable to the Ohio State University. The exchange of such papers between institutions of learning is an important service and the question may well be raised why the State of Ohio can afford to have its University Faculty engaged in scientific and other research work without at the same time making some provision for the publication of these results. The stimulating effect upon the research activities of the Faculty would be advantageous from every point of view if a reasonable sum were available for publication.

One great danger in making appropriations is a lack of proper balance in the preparing of a budget. In the large outlines, salaries, buildings, new equipment, and ordinary maintenance, a reasonable balance can be kept in mind. Within these limits, however, there is still danger of a certain competition between the amount assigned to salaries and that assigned to other University activities. Still further there is oftentimes a competition between items for equipment or maintenance and such other items as library appropriations. Furthermore, appropriations for specific purposes frequently receive undue emphasis and tend to create a lack of balance. It should never be overlooked that a university is a going concern,

with certain established activities and that all new activities or expanded activities should be given consideration as subsequent to the provision for the authorized and established budget of expenditures. Nothing is more dangerous to a budget than the tendency to break into it with special or particular appropriations that happen to strike the interest or fancy of a single individual, whether he be a trustee or president, or member of the Legislature. The President, therefore, suggests not only the propriety but the practical necessity of scrutinizing with considerable care the items in the budget calling for increased expenditure or expanded activities.

The attention of the General Assembly should be earnestly invited to the outstanding fact that the increased student attendance has outrun even the generous disposition of the members of the Legislature. The standard of teaching is, therefore, often subject to criticism by reason of lack of funds. A moment's reflection will suggest that University teachers whose services are permanent should receive salaries equal to those of our established high-school teachers. The only exception to this principle should be in the case of temporary instruction employed until permanent provision can be made.

The University would be more than pleased if the Legislature in its wisdom would relieve the Administration from the embarrassment arising out of the necessity of employing temporary instruction, in order to meet the needs of the students whose expectations are reasonable and should not be disappointed.

BUILDING LEVY

House Bill No. 325 provided a fund for the construction of necessary buildings at the state-supported institutions and, in addition, by an amendment, for a fund for buildings under the supervision of the Department of Public Welfare. The levy for the University was one-eighth of one mill. The levy for the Department of Public Welfare was one-fourth of one mill. The act provided that from this levy the Ohio State University would receive whatever remained after a sum equal to fourteen percent of such fund was given to each of the other two institutions, namely Ohio University and Miami University. It was assumed that this fund would amount to about \$900,000.00 per annum for the Ohio State University. The receipts up to this date indicate that that estimate was a little less than the actual revenue received.

It would be difficult to estimate the importance of this building fund to the University. It has enabled the Trustees to provide

for some buildings for the College of Agriculture and a much needed dormitory for women and to proceed, in general, with the building program outlined in the Annual Report of the President and Trustees for the year ending June 30, 1920. That program will receive some modifications, owing to the changes in the program for medical education. It is earnestly desired that this levy should be continued for another biennium and that the statute should be amended, so as to permit the Trustees, from the proceeds of this building fund, to equip and repair buildings, to reconstruct some buildings that will be utilized for purposes other than those for which they were originally intended. Every new building when erected makes a considerable change in the use of other buildings. Available money, therefore, is necessary, in order to keep at a high point of efficiency the entire University plant.

It is appropriate to record here that the attitude taken on this levy by the Governor was from the outset most encouraging. When the original plan of a levy for a building program for the State was presented he gave it his approval. Later when the complete program seemed to have failed he continued his interest in the levy for the educational institutions. Still later when the Department of Public Welfare came with its request the bill was amended as recited above, all the time having his cordial approval. The University recognizes with appreciation the active interest and support given by the Governor as the essential factor in the passage of the bill.

PHYSICAL EDUCATION AND ATHLETICS

The very widespread interest in the matter of athletics, especially intercollegiate athletics, has led to some lack of perspective in the public mind. Attention, therefore, is invited to the Report on Physical Education, which is well worth a careful reading by all who are interested in either physical education or intercollegiate athletics.

The development of the Stadium and the grounds about it will furnish opportunity for the consideration of a larger program than has hitherto been projected. It would be well, however, for the University constituency not to conceive of the Stadium as merely a football provision. It is gratifying to be able to say that the athletic ideals prevailing at Ohio State University and throughout the Western Conference are, perhaps, in advance of those in any other large area of the country.

Conferences between the Presidents of the institutions in this Conference, the Directors of Physical Education, the Coaches and

other officials have led to a general understanding and good will, which must gradually, throughout the year, greatly strengthen the hands of those who desire to uphold the best standards of athletic conduct and of physical education.

One feature of modern intercollegiate athletics may be worthy of a passing remark. The large attendance at intercollegiate games involves thousands of students in a journey of several hundred miles, oftentimes, and the expenditure of a considerable amount of money. This is endurable in the Western Conference because of the limitation of the number of games to seven. A further limitation arises out of the fact that not every intercollegiate contest involves these large excursions. Nevertheless the future must give some consideration to the question of regulating and limiting the excursion features. Furthermore, the gate receipts of these games should have some attention, in view of the greatly increased facilities that will soon be found in all institutions of the Conference. The Stadium is either in process of erection or in prospect at a number of these institutions, so that provision will be made for an attendance ranging from forty to sixty thousand people. Under these circumstances, the price of admission should be such as to make it possible for practically all the students to attend athletic games. And, still further, the question will arise whether the tendency to advance prices of admission is not unfortunate. The temptation to be a money-making enterprise, rather than a healthful recreation of large numbers of people is too obvious to need comment. The wholesome state of mind at present in athletic circles will probably make a satisfactory adjustment of these problems, as experience requires.

The intramural feature of athletics and physical education will doubtless greatly increase under the new facilities. The fact that the records show 10,595 registrants in the different branches of intramural athletics and sports for the year just closed will suggest the magnitude of this feature and, at the same time, invite the attention of some people to the important fact that physical education is already reaching thousands of students. The popular conception that athletics reaches a limited number of men in football is misleading, because in the sum total of athletic activities, football really occupies a small percentage of the time and attention. This is quite out of harmony with the popular notion as to the distribution of time in athletics.

THE SUMMER QUARTER

Under the four-quarter plan the University began its initial experience in the Summer Quarter of 1922. This Quarter began Monday, June 20, 1922, and will close on Saturday, September 2, 1922. The total enrollment for the Quarter was 1942 students. In order to accommodate the needs of teachers, the Summer Quarter was divided into two parts. This enabled the teachers to attend one-half the Summer Quarter and then be free to attend the Teachers' Institutes which under the law is required. Students who were not teachers or students who desired to continue throughout the entire Quarter were enabled to do so and thus to accomplish the main purpose of the Summer Quarter, namely, to advance their education and economize time. The experience so far as known is altogether favorable to the new proposal. The enrollment of the Summer Session in 1921 was 1,562. It is now perfectly obvious that if the University at the outset had been able to offer a larger number of courses the student enrollment would have been considerably increased. It is known that a considerable number of students came for the purpose of registration and returned home because of the limitation in the number of courses offered.

SPECIAL ACTIVITIES

During the year the University through its military organization under the direction of Colonel Leonard participated in the services in recognition of General Armando Diaz on Friday, November 18, 1921, and also in the public exercises associated with the dedication of the West Broad Street Bridge Monday afternoon, October 31, 1921. The motive for one of these exercises was patriotic and was an expression of international good will, as well as of appreciation of the high character and splendid military services of General Diaz. The other was an expression of local interest on the part of the University in the civic activities of the city.

The University cannot, by the exercise of any authority or force, compel its students to engage in such activities. The appeal must be made to their willingness to participate in such public activities. It is gratifying to know that the students displayed a splendid spirit of co-operation. It is not intended, however, that such participation shall become a habit or that the University shall feel under obligation to engage in such exercises. The important factor is that to declare a University holiday for thousands of students, in order to celebrate some public event, is a great eco-

conomic loss to students, most of whom are nonresidents, so far as the City of Columbus is concerned. The interruptions during the year from so many different causes should be avoided so far as possible and the sentiment cultivated among students, faculty, and citizens that education is a continuous process and that the schools should not be interrupted more than is necessary in their ordinary processes of education. The University, however, is always glad to join in any public movement, upon being assured of its character and importance.

THE CO-OP STORE

In July, 1921, a movement for a co-operative store took form. A committee of the faculty and students gave the subject careful consideration and developed a plan for a co-operative store which should bring to the campus a service that was believed to be much desired on the part of students. This movement aroused the opposition of merchants off the campus, who believed that it was introducing an element of competition and also infringing upon the rights of taxpayers who supported the University. The feeling, however, on the part of the friends of the co-operative store idea was that the venture was justifiable and within the rights of the students. Accordingly a store was opened in the basement of Hayes Hall and provided for the accommodation of students in books, stationery and other supplies constantly used by the students. The effort has been highly gratifying as a matter of experience and has met with the favor and approval of the students.

Meantime a suit was brought to determine the question as to the right of students to operate such a store. This litigation resulted in a court decision favorable to the students. It should not be understood, however, that this court decision either authorized or could be construed to approve a general and miscellaneous commercial enterprise on the campus and in a University building. The basis of this decision was that this was a co-operative movement among students, for the benefit of students, and to further the interests of their education.

STUDENT AUDITOR

During the current year there has been installed in the President's office an auditing service in charge of Miss Edith Auch. The object and purpose of this service is to render helpful assistance to students of the University, and especially to the organizations, in the auditing and management of their financial affairs. A set of blanks has been carefully prepared and is furnished to the or-

ganizations at cost. The use of these blanks and the regular audit of the students' accounts will prevent a great many unfortunate experiences and make it possible for student organizations to conduct their affairs on a business-like basis. The tendency among students to careless or indifferent methods of business is obvious to anyone familiar with student life. This is probably due to the fact that students are chiefly engaged in other matters and can give only the odds and ends of their time to the business management of the organizations with which they are associated. The purpose of installing the auditing system was to assist, in a friendly and helpful way, in the management of the business affairs of these organizations. The experience for the portion of the year has amply demonstrated the wisdom of the venture. The organizations that were brought within the survey of the Auditor have uniformly expressed their satisfaction with the service. The fact that the service was installed during the year, after most organizations were under way, made it a little difficult to attain the best results. It is confidently expected that, with everything in readiness, the experience of the next academic year will not only justify the experiment but arouse a high enthusiasm on the part of those who desire to see student organizations reach a high degree of efficiency.

THE Y. M. C. A. AND Y. W. C. A.

The Y. M. C. A. of the University is very different from that of the ordinary city. The conditions on the University campus are, in a good many important features, not like those elsewhere. Attention is directed to the report submitted as an appendix. This report will show an interesting variety of activities and, at the same time, indicate something of the service that is rendered by this organization to the students.

The Y. ~~W.~~ C. A. renders a service somewhat similar to that rendered by the Y. M. C. A., although, from the nature of the case, the service is not quite so extensive. The importance of these two organizations increases steadily from year to year. The small appropriation made by the Trustees secures a large amount of service for the money. It is extremely unfortunate that the Legislature felt called upon to eliminate this item from its budget.

REPORTS FROM DEANS AND OTHER OFFICERS

There is submitted as part of this report selections from the annual reports of the Deans of the Colleges and of certain other officials of the University, together with certain statistics as re-

quired by law. These appear as appendixes to this report. In general it may be said that these reports give direct information upon the conditions in the Colleges and are worthy of attention on the part of those who desire to be well informed upon the details of University activities.

A survey of the financial status of the University is printed as a part of this report. A complete statement is printed, as usual, in a separate bulletin, which may be had upon application to the Secretary to the Board of Trustees.

Respectfully submitted,

W. O. THOMPSON,
President.

ANNUAL REPORT OF THE COLLEGE OF AGRICULTURE

For the Year Ending June 30, 1922

PRESIDENT W. O. THOMPSON, *The Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Agriculture for the year ending June 30, 1922.

ENROLLMENT

The total enrollment of the College for the year was as follows:

Degree courses in Agriculture.....	723
Degree course in Home Economics.....	287
Three-year course.....	113
Eight weeks' winter course.....	121
Total.....	1,244

While this enrollment is practically the same as that of last year it is worthy of note that the freshman enrollment in agriculture was only a little over half that of last year, while the enrollment in the upper classes was larger than in any previous year. Past experience has shown that the freshman enrollment is very sensitive to the state of prosperity of the occupation of farming. This is partly due to the fact that in poor years the farmer finds it difficult to provide the money to assist his son in obtaining an education, but is more largely due to the fact that when farming is depressed as a business the farm boys are discouraged from preparing to become farmers. It speaks well for the College that the students who enter the College obtain a vision of the calling of agriculture which induces them to continue their courses in spite of the temporary depression in the farm business.

THE ALL-AG COUNCIL

At the beginning of the first semester there was organized, at the request of the Dean, a body known as "The All-Ag Council." This body consists of the Dean and Secretary of the College, ex-officio, with a member elected by each of the student societies in the College of Agriculture, namely: The Agricultural Student staff,

Townshend Agricultural Society, Saddle and Sirloin Club, Home Economics Club, Horticultural Society, Agricultural Engineering Society, Progressive Dairy Club, and University Grange. This group met twice a month in the Dean's office. It became the permanent committee to care for such general activities as the Agricultural Open Night and the All-Agricultural Banquet. Its function is also to encourage the more worth-while activities of the various societies, such as the "Horticultural Festival" and the "Little International." The Council also aims to unite the College in support of all the important movements of the University as a whole. It also serves to bring to the Dean student opinion upon all matters of importance to the student body. I feel that the Council has rendered a real service during the past year and that it promises to be increasingly useful in the future. The members for the coming year sat with the Council during April and May and will, therefore, be ready to enter upon their work with the beginning of the new school year.

STUDENT JUDGING TEAMS

Among the more noteworthy extracurriculum achievements of the students during the current year were the winning of the judging teams.

The Dairy-products Team won first place at the National Dairy Show in the judging of each of the following products: (1) Milk, (2) butter, (3) cheese. The team also won the sweepstakes prize for being first in all products. Members of the team also stood first, second, and third in individuals in cheese and all-products, and second in milk and butter. On the whole, a remarkable judging record.

A Swine-judging Team won second place at the National Swine Show at Peoria, Illinois. This team also had the high individual among the contestants. Another team won first place in judging livestock at the International Livestock Show at Chicago, in a field of 21 contestants.

STATE-FAIR WINNINGS

I desire to call special attention to the very creditable showing made by the University livestock at the Ohio State Fair, as detailed in the report of the Department of Animal Husbandry. This is especially gratifying because of the promise that it holds forth for the future of our herds and flocks.

FACULTY CHANGES

A number of changes in the faculty are to be noted. Professor L. M. Montgomery has been absent on leave, pursuing advanced studies at the University of California. Dr. H. E. Erdman was granted a leave of absence for special work with the United States Bureau of Markets. Assistant Professor Lantis accepted a position at the University of Minnesota. Dr. C. L. Metcalf resigned his position to become head of the Department of Entomology at the University of Illinois.

Mr. R. R. Jeffries has been supplying for Professor Montgomery during his absence, and Mr. Z. B. Wallin has carried the work of Dr. Erdman. Mr. D. M. DeLong was appointed as Assistant Professor, and Mr. W. D. Webster as Instructor in the Department of Zoology. Miss L. Gladys McGill was appointed as Assistant Professor, and Miss Laurentza S. Hansen and Miss Katherine Bazole as Instructors in the Department of Home Economics.

Mr. Charles E. Lively was called from the University of Minnesota to become Assistant Professor in the Department of Rural Economics. His special work will be in the field of the sociology of farm folk.

Dr. W. G. Stover returned to the Department of Botany after his leave of absence and has been rapidly developing the work in plant pathology.

Professor F. W. Ives was temporarily relieved from his teaching work in Agricultural Engineering about April 1 so that he might supervise the construction of the new barns across the river, Mr. Virgil Overholt of the Extension Service supplying for him in the departmental work.

Professor W. F. Stewart spent a few weeks visiting several states under a commission from the Federal Board of Vocational Education to make a study of the equipment needs for the courses in Vocational Agriculture.

Professor Herbert Osborn has the honor of being one of the two candidates nominated to receive the Sullivant Medal for distinction in the field of scientific achievement and research.

RESEARCH

The reports of the departments show that the members of several of them have carried on a creditable amount of research work during the past year. The teaching load of the staff and the lack of facilities for research make work in this line difficult of accomplishment. I beg to repeat the statement made in former reports,

that opportunity for research is absolutely necessary if the College is to assume a desirable place among its sister colleges of agriculture.

PLANT INSTITUTE

The Plant Institute which was organized within this College in the spring of 1921 (see report for 1921) has had a very successful first year. It has been a real asset to the College in the way of co-ordinating the efforts of those interested in plant studies, and has had a desirable influence upon the graduate work in the departments of the College. I feel that it will have an increasing important place in the future. Steps have been taken toward the organization of a similar group of those especially interested in animal studies.

QUARTER PLAN

The first half of the year was especially strenuous because of the labor involved in adjusting the College to the Quarter Plan. A committee was at work for over a year upon this readjustment. The change to the Quarter Plan was made the occasion of a complete reappraisal of all the courses and curricula of the College, and the faculty entered seriously upon the work of this reappraisal. I have reason to believe that the courses have not merely been adjusted to the Quarter Plan, but that they have been materially improved and better co-ordinated. The new curricula will be considerably more elastic and I am sure will better serve the needs of the students. A committee is now at work upon certain proposed changes in the winter courses.

FARM OPERATIONS

The land across the Olentangy River is gradually being developed into a farm. This work necessarily proceeds slowly because of insufficient funds for current expenses and minor improvements. All crops raised on the general farm are used in feeding the University livestock so that the crops produce no income which can be used for improvements. The farm cannot be placed upon anything like a permanent basis until we have more nearly built up our completed estate.

About one hundred sixty (160) acres have been completely tilled and the tiling will proceed as funds are available. All tiling is carefully mapped so that the tile can be located at any time. A large amount of fencing is needed, but no funds seem to be available for this purpose at the present time. During the past year the

farm produced the following crops: Hay, 367 tons; ensilage, 300 tons; baled straw, 78 tons; corn, 4500 bushels; wheat, 1086 bushels; oats, 2209 bushels; soybeans, 266 bushels.

ROTARY FUNDS

The last Legislature granted permission to use the proceeds from sales of farm products to help in paying the running expenses of certain departments in this College. While the amount of money realized from these sales has not been large (because the most valuable material has been fed and not sold), it has helped materially in making it possible for the Departments of Animal Husbandry, Dairying, Farm Crops, Horticulture, and Soils to carry out a more extended program of work than they could have done without the rotary fund.

EXTENSION SERVICE

A comprehensive report of the work of the Extension Service is made in the separate report required by law. It is sufficient to state here that the past year has in many ways been unusually successful. The local campus was the scene of the largest Farmers' Week in the country with a registered attendance of 6125. In November a special Boys' and Girls' Club Week was held on the campus at which over 800 boys and girls from all parts of the State were in attendance. The increasing demand for extension service will necessitate increased appropriations in the immediate future.

NEW BUILDINGS

Construction has been started on the group of five barns for sheep, swine, horses, beef cattle, and dairy cattle on the land west of the Olentangy River. These barns should be ready to occupy by autumn. A detailed program of new building construction much needed by the College is being submitted to the President in connection with the proposed budget for the next biennium.

PERSONAL ACTIVITIES OF THE DEAN

In addition to his program on the local campus, the Dean has delivered 73 addresses within the State before farm bureaus, farmers' institutes, teachers' institutes, granges, chambers of commerce, and rotary clubs. Outside of the State he has spoken as follows: Three addresses before the Minnesota Crops Show at Minneapolis; two at the College of Agriculture, University of Minnesota; two before the Midwest Vocational Education Society at Milwau-

kee; one before the Land-grant College Association, at New Orleans; a commencement address for the Short Course in Agriculture, University of Wisconsin; a high-school commencement address at Taylorsville, Kentucky, and two at the conference of extension workers at the College of Agriculture, Cornell University.

AIMS AND NEEDS

The aim of the College of Agriculture is to supply any needed information upon agriculture or home economics to any person, at any time, and in any place. In accordance with this idea, it is the policy of the College to develop strong collegiate courses in agriculture and home economics, as many and as varied short courses as are required to meet the needs of the State, and a comprehensive extension service. Along with the teaching program must go a strong research program if the College is to command the kind of a staff of workers that is needed. It is noteworthy that while this College has for many years been among the first three agricultural colleges in point of student enrollment, it has been very far below that in value of equipment and in income for salaries and current expense. A large increase in budget is needed for these purposes in the future. A detailed statement of all these needs is included in the budget recommendations for the next biennium.

Respectfully submitted,

ALFRED VIVIAN, *Dean.*

REPORT OF THE DEPARTMENT OF AGRICULTURAL CHEMISTRY AND SOILS

AGRICULTURAL CHEMISTRY DIVISION

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Division of Agricultural Chemistry for the year 1921-1922:

The work of the Division has been somewhat impaired because of a deficiency of graduate assistants, making it necessary for us to use undergraduates as laboratory assistants almost entirely. Conditions were particularly bad toward the latter part of the year when the student-labor fund became nearly exhausted and even student assistants had to be dispensed with in large part. Miss Hoylande Young served as student assistant in the Division throughout the year without financial compensation. Our laboratory work is of such a nature that unless better provision is made for laboratory assistants the quality of the work will suffer.

During the year a total of 608 students were enrolled in the courses of the Division.

CHANGES AND ADDITIONS IN CURRICULUM

Because of the discontinuance of the three-year course in Agriculture our course in the Applications of Chemistry to Agriculture will not be offered hereafter. Under the Four-quarter Plan which goes into effect at the beginning of the Summer Quarter of 1922, there will be several changes in the courses of the Division. The most important are: (1) a one-quarter course in General Biological Chemistry will be offered which will be prerequisite for our advanced courses in plant chemistry and animal nutrition; (2) the course in Household Chemistry will be changed to include elementary instruction in organic chemistry. The change last mentioned is made in order to further concentrate the chemistry instruction for home-economics students, making it comparable to that in the four-year course in Agriculture.

CHANGES AND ADDITIONS IN EQUIPMENT

The only large addition to the equipment of the Division is the apparatus for the determination of hydrogenion concentration.

This apparatus has been in use during the past semester and gives us an opportunity of applying a method much used in research.

RESEARCH

During the year Mr. Phillips has continued his studies on nitrogen metabolism in plants. Mr. Lyman has been hampered in his nutritional studies by serious lung infections among the experimental rats so that very little progress has been made. The animal-room we are using is so poorly adapted for the purpose that it is difficult to keep experiments going in it.

Mr. Kitsuta, a graduate student, is studying the effects of various vitamins on the utilization of calcium by animals.

No graduate students have completed work for degrees during the year, but four candidates for the Ph.D. degree are making progress toward their objectives.

The Division is expecting to co-operate with the Departments of Animal Husbandry, Agricultural Engineering, and the College of Veterinary Medicine in a research project proposed and supported by the American Horse Association. The object of the study is to determine the efficiency of the horse as a motor. The experiment as proposed will continue over several months and require the services of a chemist for the analysis of feeds and excreta.

EXTENSION SERVICE

The Division has answered a considerable number of inquiries from farmers and county agents and has tested various materials sent in. The extension bulletin on the food value of milk has been revised and some information on the vitamins prepared for publication.

PUBLICATIONS

Haley, D. E. and Lyman, J. F.—Castor Bean Lipase: Its Preparation and Some of Its Properties. *Journal of the American Chemical Society*, 43, 664-70, 1921.

RECOMMENDATIONS OR POLICIES

The lack of properly equipped laboratories for advanced students and research still exists, but it is hoped that our needs in these respects will be cared for in the near future.

We recommend that two graduate assistants be added to our staff. With three graduate assistants the instruction of the Division would be strengthened and research promoted.

We recommend that a half-time clerk and stenographer be added to the staff of the Division.

Respectfully submitted,

J. F. LYMAN.

B. REPORT OF THE SOILS DIVISION

DEAN ALFRED VIVIAN:

DEAR SIR—The Division of Soils submits the following report for the year 1921-1922:

The only fundamental change in method for the year has been the reorganization of the work in Extension. Formerly three field men were employed in Soils Extension and a similar number in Crops Extension. By combining the field work of the two departments some economy was effected. Mr. E. E. Barnes and Mr. R. B. Dustman of the Soils Division and Mr. Earl Jones and Mr. E. P. Reed of the Crops Department have divided the work in Soils and Crops in the State geographically and constitute the Extension-field group. Mr. Salter is in charge of the Extension program in Soils in co-operation with these four men.

A total of 450 students were enrolled in the courses of the Soils Division during the year. Three men—C. C. Coontz, F. M. Morgan, and W. L. Turner—completed the work for the M.Sc. degree with majors in Soils. Two candidates—Dennis E. Haley and Richard Bradfield—received the Ph.D. degree with majors in Soils. Charles L. Thrash and T. C. McIlvaine were registered with majors in the department taking work leading to M.Sc. and Ph.D. degrees, respectively.

CHANGES AND ADDITIONS IN CURRICULUM

Within the year plans were made to change the offerings in Soils to conform to the requirements of the Four-quarter Plan. Accordingly the titles of the courses and the subject matter covered by them has been entirely rearranged. The only course which might be classed as new is one on "Biological Analysis of Soils" which is intended to introduce the student to some of the more fundamental biological processes occurring in the soil. It has been found possible to reduce the actual number of hours of work required of students. The Division hopes to succeed in economizing the students' time devoted to the several subjects without sacrificing any essential features of these courses.

CHANGES AND ADDITIONS IN EQUIPMENT

The articles of equipment which have been secured during the year are largely of the nature of replacement. The most important items are a Braun pulverizer, chainomatic balance, a research laboratory desk, and shaking apparatus for mechanical analysis.

RESEARCH

The field projects outlined in previous reports are being continued and now include 240 one-twentieth-acre plots devoted to a study of the effect of certain soil treatments on the soil and crops. The primary purpose of these experiments is not one of determining crop yields but of studying the nitrogen economy and nitrogen changes in the soil as related to the fertilizer, manure, and limestone applications and cropping systems. The Division of Soils is developing its research program around this problem but is unable to proceed as rapidly as it should by reason of the fact that there is no departmental chemist who can be assigned to the analytical work necessary in carrying out the projects. As long as research is something which must be done only as one finds time between teaching and related duties the amount of research accomplished must be relatively small.

Mr. Conrey is continuing the Soil Survey of the State for the Ohio Agricultural Experiment Station. In this connection he attended a meeting of the Association of Soil Survey Workers held at Lansing, Michigan. Mr. Valley, Mr. McClure, and Mr. Thrash each have research projects planned for their Ph.D. dissertations. Mr. Salter has in progress some work on "The Factors Affecting the Soil Reaction" the first paper of which is in preparation for publication. Mr. Bear attended the annual meeting of the American Society of Agronomy at New Orleans and presented a paper on "Nitrogen Economy" before that Society. The five graduate students previously mentioned as majoring in Soils each presented a dissertation with subjects as follows: "The Availability of Potassium in Orthoclase for Plant Nutrition"; "The Earthworm in Relation to the Nitric Nitrogen in Soils"; "Comparative Solubilities of Various Limestone Materials Used for Agricultural Purposes"; "The Nature of Inorganic Colloids in the Heavy Layer of the Putnam Subsoil in Northeast Missouri"; "Variation in the Physical Properties of the Sandy Soils in Lucas County."

EXTENSION

The usual extension program has been carried forward under the direction of Mr. Salter. In this connection the Division of

Soils has been active in the promotion of a variety of projects. A complete statement of these will be found in the report submitted to the Director of Agricultural Extension. It is not possible to delegate all of what might be considered extension work to men employed for that purpose alone. In order to give some idea of the variety of problems with which the Soils Division is concerned the following are mentioned: Mr. Salter and Mr. Bear prepared a brief and presented it before a committee of the Central Freight Association in Chicago in favor of reduction of freight rates on limestone for agricultural purposes at the request of the Ohio Farm Bureau Federation. No reduction being granted the matter was taken before the State Public Utilities Commission before which Mr. Bear appeared twice as a witness. A reduction in freight rates amounting to about 28 percent was ordered. In co-operation with the National Limestone Association and the N. Y. C. and B. & O. railroads an extensive series of limestone demonstrations are being carried out over the State under the direction of Mr. Salter. Mr. Bear met with representatives of the National Fertilizer Association and of the Agricultural Colleges of the Central West at Columbia, Missouri, and discussed the subject of the "Function and Value of Sales Service." Mr. Bear met with the agronomists of Massachusetts and Pennsylvania and with representatives of the fertilizer industry at State College, Pa., to discuss the elimination of low analysis fertilizers. All letters of inquiry of an extension nature were referred to the men employed in this service. There still remained what might be considered departmental correspondence in which answers were required during the year to 436 letters in addition to several hundred letters required to be written in initiating various projects along Soils lines.

PUBLICATIONS

RESEARCH

Nitrogen Economy in Soils. Firman E. Bear. Jour. Amer. Soc. Agron., Vol. 14, p. 136-152, 1922. Geology of Wayne County, Ohio. Guy W. Conrey. Geological Survey of Ohio, Bul. 24, Series 4, 1922. The Factors Affecting Soil Reaction—(1) The Soil-water Ratio. Robert M. Salter and F. M. Morgan, in preparation.

EXTENSION

Timely Soil Topics: four-page pamphlets by various members of the Division with the following subjects: "High Analysis Fertilizers," "High-grade Superphosphates," "The Control of Soil Erosion," "The Mechanics of Tile Drainage," "Soil Fertility and Crop Equality," "Acid Soils," "Clods," "How to Know Soils,"

"Soil Practice for Lawns," "Intensive Use of Fertilizers on Potatoes," "Fertility Practices for Canning Crops," "Fertilizers for Tobacco."

AGRICULTURAL PRESS

The following full-page or more articles were written by Mr. Bear in connection with the various activities of the Soils Division which needed promotion: "Conservation of the Soil," "What Kind of Fertilizer Shall I Use?" in American Fertilizer; "Producing Maximum Yields," in Agricultural Student "Phosphates and Fertilizer Practice," "Acid Phosphate vs. Complete Fertilizers," "Limestone and Ohio's Future Welfare," "Fertilizers Used on Ohio Farms," "Shall We Increase Crop Production?" and "The Co-operative Purchase of Fertilizers," in various numbers of The Ohio Farmer; "The Phosphate Problem on Ohio Farms," in Official Report on Fertilizers State Department of Agriculture; "Fertilizer Industry from a Professional Point of View," Fertilizer Green Book; "Fertilizers for Wheat," in Armour's Almanac; "Limestone for Plants and Man," in Farm and Fireside; "Increasing Agricultural Production," in Breeders' Gazette.

RECOMMENDATIONS

There are two things that are essential to adequate progress in Soils research and instruction in this University. One of these is a chemist employed to do analytical work only, at least for a definite period each year. We hope that with the Four-quarter Plan it may be possible to have one Quarter of Mr. McClure's time to be devoted exclusively to the analytical problems involved in a study of "Nitrogen Economy in Soils" as supplementary to the fieldwork in progress on this project. The other item needed is a greenhouse sufficiently large to permit of its being used by the graduate and advanced students and by the members of the Soil Division in furtherance of research work for which greenhouse facilities are essential.

Respectfully submitted,

FIRMAN E. BEAR.

REPORT OF THE DEPARTMENT OF AGRICULTURAL
EDUCATION

DEAN ALFRED VIVIAN, *College of Agriculture*:

DEAR DEAN VIVIAN—I respectfully submit the following annual report of the Department of Agricultural Education for the year 1921-1922:

The work of the Department has progressed during the year to the extent that more definite and helpful results have been obtained in teacher training, and further progress has been made in planning for a more extensive field of usefulness.

Changes in personnel have not been necessary, which has enabled the proposed program of activities to be developed without interruption. With the reorganization of the supervision of departments of Vocational Agriculture, placing the Supervisor under the State Superintendent of Public Instruction, Mr. Fife has been called from the Department to the position of State Supervisor, thus relieving Mr. Stewart of the administrative duties connected with that office. No change was made, however, in the amount of time given to field supervision of agricultural departments and to training teachers in service by the members of the Department.

During the summer of 1921, Mr. Bruce and Mr. McMillen were in attendance in summer school at Cornell University and Mr. Stewart at Columbia University, thereby contributing very materially to the enlargement of the duties of the Department and the thoroughness of their performance.

CHANGES AND ADDITIONS IN CURRICULUM

The requirements of the courses in Observation Teaching of Vocational Agriculture 103 and Supervised Teaching of Vocational Agriculture 104 were increased by one conference hour each week, and time required for a study of project organization and supervision, so that credit was increased in each course from two hours to three hours.

A course in Special Methods of Teaching Agriculture, three semester credits, was offered for the first time during the Summer Session and again during the second semester. The success of this course assures its continuation as a regularly offered course in the Department.

CHANGES AND ADDITIONS IN EQUIPMENT

Although the Department is still laboring under crowded conditions in its limited quarters, it is hoped that more suitable offices

may become available before the opening of the next University year.

SUPERVISION

(a) Continuing the arrangement of previous years with the State Board of Education, Mr. Stewart has given half-time to supervision of agricultural departments in the high schools. Mr. Nisonger has made occasional visits to these departments for the purpose of aiding teachers or assisting in supervision. Mr. McMillen has continued his duties as itinerant teacher trainer and has also given assistance to nearly 50 teachers, the length of his visits with each teacher varying from one to three days as necessity demanded. In all, almost 125 visits have been made by members of the Department to the 86 departments in the State.

(b) The program in the teacher-training schools, under Mr. Nisonger's direction, has been an improvement on previous programs with special emphasis given to the improvement of assistance and instruction to the college students in Observation and Supervised Teaching. As the schedule of class work shows, 32 students have pursued the course in Observation Teaching and 26 students in Supervised Teaching. This increase in enrollment in these courses has required a more efficient organization of the members of the staff engaged in teacher-training work. Observation courses have been improved by the addition of group observation under the direction of Mr. Nisonger preceding observation by the students as individuals.

Project organization and supervision studied in the field have been included in the courses in both Observation Teaching and Supervised Teaching. One hour weekly for discussion in conference has also been included in the course in Supervised Teaching.

Improvements in the teacher-training departments have included the following:

A farm shop, most completely equipped, has been provided at Hamilton Township, also at Worthington. During the year a new building to house the Departments of Agriculture, Farm Shop, and Home Economics has been constructed at Canal Winchester, thereby improving greatly the facilities for caring for the vocational departments in that training school.

Short-unit courses in tractors and gas engines, farm shop, and milk testing have been offered with unusual success at Hamilton Township; also at Worthington and Hilliard short-unit courses in the care and operation of gas engines and tractors were offered to interested groups of farmers.

Agencies for the improvement of teachers in service, in addition to Mr. McMillen's duties as itinerant teacher trainer, have consisted of the following:

1. Nine district conferences held during the months of October and November which carried to the teachers in small groups special assistance in securing supervised farm practice and in the organization of short-unit courses. Four of these conferences were held in the training schools.

2. A special meeting for teachers of vocational agriculture was held in connection with the Ohio State Teachers' Association during the Holidays. The program consisted of papers and discussions by vocational teachers and special addresses by Professor W. S. Taylor of the State Department of Education, Harrisburg, Pennsylvania.

3. The monthly News Letter has been prepared more or less regularly as an agency in which suggestions and information have been transmitted to the teachers, superintendents, and others interested.

4. Considerable time has been required for assistance in the organization of winter short courses, particularly those dealing with tractors and gas engines, for which special instructors were furnished. A summary of the short-course instruction shows 50 courses to have been offered with a total enrollment of 1198 farmers, the usual length of a course being three weeks with sessions of three hours daily.

(c) Prospects are favorable for an addition of at least 30 new departments to the list of approved schools. Visitation of schools has occupied a large amount of the time assigned for supervisory duties during the months of April and May.

RESEARCH

Due to the limitation of our teaching staff, problems in research have not been undertaken as yet, but with the approval of a schedule of graduate courses it is probable that the field of research will be opened as soon as needed additions to the personnel of the Department are secured. The place of emphasis in the Department of Graduate Work will be on the training of prospective supervisors and teacher trainers, in which advantage will be taken of our teacher-training facilities in outlying agricultural departments which will be used for field work.

During a portion of the months of April and May, Professor Stewart was on leave of absence for the purpose of making a study of rooms and equipment for agricultural departments at the invi-

tation of the Federal Board for Vocational Education. For this study nearly five weeks were given to visiting agricultural departments and training centers in Indiana, Illinois, Virginia, New Jersey, Massachusetts, New York, and Pennsylvania.

PUBLICATIONS AND ADDRESSES

"Suggestions on Teaching Farm Shop," Mr. Kenestrick.

"Publicity for Vocational Departments," Mr. T. E. Berry.

The Department has been requested on various programs as follows:

National Society for Vocational Education, Kansas City. Mr. Stewart.

Vocational Education Association of the Midwest, Milwaukee. Mr. Stewart, Mr. Fife.

District Conference of Vocational Teachers, Syracuse, New York. Mr. Stewart.

Rural Life Club of the University of Illinois. Mr. Stewart.

Rural Education Seminar, Purdue University. Mr. Stewart, Mr. Fife.

Central Regional Conference of State Supervisors and Teacher Trainers. Mr. Fife, Mr. Nisonger, Mr. McMillen, Mr. Bruce.

Rural Life Club of Cornell University. Mr. Stewart.

In addition, the members of the Department have attended father-and-son banquets and publicity meetings in connection with the proposed development of agricultural departments.

During the summer of 1922 it is expected that Mr. Kenestrick will be in attendance at Cornell University and that Mr. Bruce will be loaned part time to give instruction in Farm Shop in the Department of Industrial Arts.

Arrangements have also been made for Mr. Stewart to assume the duties of State Supervisor of Vocational Agriculture in the Department of Education during the absence of Mr. Fife while completing his graduate courses in Cornell University.

RECOMMENDATIONS

It is recommended that consideration be given to the teaching load necessitated by the addition of new courses for advanced undergraduates and graduate students, and that relief be provided by securing an additional member of the staff at the earliest possible date. Otherwise, the present limited staff will be handicapped not only in their own professional improvement but also in the thoroughness desired in the courses offered.

Respectfully submitted,

W. F. STEWART.

REPORT OF THE DEPARTMENT OF AGRICULTURAL ENGINEERING

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Agricultural Engineering for the year 1921-1922:

A marked increase of interest, both as to quality and as to number, has been noted in the students electing work in this Department. A serious effort to increase teaching efficiency has probably had considerable bearing on the attitude of students. This is indeed gratifying in view of the poor classroom and laboratory facilities of this Department.

During the year a total of 557 students were enrolled in the courses of the Department.

CHANGES AND ADDITIONS IN CURRICULUM

No changes in courses were made on account of the change from the Semester to the Quarter Plan effective July 1, 1922. At that time all the courses will be reorganized and redistributed to the best advantage of the student. The addition of required courses in plan reading to be substituted for a required course in drawing, previously offered by the Department of Engineering Drawing and of a required course in Household Mechanics for students in the home-economics course will be made.

ADDITIONS TO EQUIPMENT

About \$25,000 worth of new machinery has been loaned us by implement and tractor concerns. Some replaced older models that had been returned. This kindness saves the University a great deal of money and insures the Department of up-to-date equipment.

RESEARCH

A joint project with the Ohio Experiment Station on "Effect of Depth and Spacing on Efficiency of Tile Drains" is continued.

A joint project with the Departments of Animal Husbandry and Agricultural Chemistry on the "Motive Efficiency of the Horse" is under contemplation.

Studies of farm buildings are being continued in the new barns now under construction.

SERVICE TO MANUFACTURERS

In return for borrowed machinery, much valuable data are being turned over to manufacturers of farm and household equip-

ment. This service is given with the understanding that the farmers of Ohio are the ultimate beneficiaries in improved methods and machinery.

EXTENSION SERVICE

New work started this year was the distribution of war surplus explosives and demonstrations of their uses in drainage and land clearing.

Terracing and earth dams for soil saving and prevention of erosion was also initiated. Results are immediate and far reaching. The annual report filed with the Director of Extension Service shows the scope of the entire project.

PUBLICATIONS

The members of this Department are all serving the public through the medium of such publications as *The Ohio Farmer*, *Farm and Fireside*, *Breeders' Gazette*, *The Architectural Forum*. A list of articles published would be too long for justification in this report. In addition, several extension-service bulletins have been prepared and distributed.

RECOMMENDATIONS

1. That the Department be provided with adequate quarters in place of the present makeshift.
2. That more liberal allowance for freight and breakage be made to loaners of machinery.
3. That certain items of standard machinery be made a part of the Department equipment by purchase.
4. That a demonstration field, free from the necessity of producing a given crop, be set aside for this Department.
5. That adequate tool-room facilities be provided to prevent recurrence of constant petty thieving of tools, gasoline, accessories, from borrowed equipment, and mutilation of delicate machinery and apparatus by malicious or mischief-bent individuals.
6. That this Department be provided with a full-time stenographer or clerk.

F. W. IVES.

June 13. 1922.

REPORT OF THE DEPARTMENT OF ANIMAL HUSBANDRY 1921-1922

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Animal Husbandry for the year 1921-1922:

The Department has been compelled to make the most of a rather difficult situation during the past year. The addition of one more laboratory period to the production courses and the sectioning of classes made necessary by the heavy enrollment, have taxed the Department's classroom facilities to the limit, necessitating three classes convening in the Judging Pavilion at the same period. Lack of sufficient barn labor has made it necessary to take some classes across the river to the hog plant, rather than to move the hogs to the Judging Pavilion. Judging exercises were held under great disadvantages when this was done. Separation of the class work from the base of operations in the barns causes serious interference, but will not be overcome until class work as well as livestock is provided for across the river.

CHANGES AND ADDITIONS IN CURRICULUM

Course 153, Meats and Meat Products, has not been given the past semester on account of the lack of funds with which to engage a student assistant. Inasmuch as the laboratory work in meat cutting is given in the market-room of the Horticultural Building, considerable extra labor would be required to put the room in order for the market on the following morning after a meat-cutting demonstration had been held. Furthermore, it has been customary to employ a senior student to assist in the meats laboratory, but no money was available for that purpose this year, so the course was not given, although the full quota of 15 students desired to register for it. It is hoped that this omission in the catalogued curriculum will not be necessary another year.

CHANGES AND ADDITIONS IN EQUIPMENT

The five new barns which are to comprise the livestock unit on the farm land across the river are now under way. Two wings of the Sheep Barn and one of the Swine Barn have been completed for some time and at present the Dairy-cattle Barn is completely framed and sided; the frames of the Beef-cattle Barn and the Horse Barn are going up, and the foundation for the body of the Sheep Barn is completed. It is understood that provision for the comple-

tion of the Swine Barn has been made. Some fencing of hog pastures and lots has also been done. It is expected that the grading and laying out of the necessary paddocks will go forward so that all five of these barns will be ready for occupancy by early fall.

LIVESTOCK AND ITS CARE

The general condition of the College herds and flocks has been good. Sales of livestock both to breeders and to the butcher have exceeded those of previous years in an effort to cull the herds and flocks when replacements could be bought at the lowest figure. Cattle values especially have been recovering their normal tone and the time seemed most opportune for the purchase of such foundation stock as was needed to improve the herds. Being required to pay some regular, in addition to all miscellaneous, labor with livestock funds has interfered seriously with this program, but several valuable accessions to the studs, herds, and flocks have been made during the past year. The University was even more successful than last season in its showing of livestock at the Ohio State Fair, winning two Grand Championships. By a ruling of the State Board of Agriculture, all cash prizes won by University livestock constituted a fund out of which the expenses of the students competing in judging contests at the International Livestock Exposition, the National Dairy Show, and the National Swine Show could be paid, and a substantial amount for this purpose was won.

Our annual inventory, dated July 1, and summarized by breeds, is as follows:

Class	Breed	Number Head
Horses—		
	Percheron.....	15
	Belgian.....	5
	Miscellaneous.....	1
Cattle—		
	Jersey.....	15
	Holstein-Friesian.....	25
	Guernsey.....	12
	Ayrshire.....	3
	Shorthorn.....	40
	Aberdeen Angus.....	33
	Red Polls.....	2
	Herefords.....	11
	Grades and Crosses.....	15

Sheep—

Shropshire.....	30
Southdown.....	27
Merino.....	12
Grades and Crosses.....	19

Swine—

Duroc Jersey.....	47
Berkshire.....	29
Yorkshire.....	61
Poland China.....	42
Spotted Poland China.....	14
Hampshire.....	10
Cross Breeds.....	5

This inventory shows the following grand total:

Class of Stock	Number Head
Horses.....	21
Cattle.....	156
Sheep.....	88
Swine	208
Grand Total.....	473

RESEARCH

There has been no opportunity for Animal Husbandry Professors to devote any time whatever to research on account of the teaching load which the inadequate staff is called upon to carry.

EXTENSION SERVICE

The Beef-production Extension Projects reported to have been inaugurated last year have been especially well received, 160 men in 13 counties having co-operated. The view herd of beef cattle was exhibited at 12 fairs with competent attendants in charge, who were instructed to disseminate as much information relative to beef production in Ohio as the visitors to their tent could be induced to receive. Leaflets reporting steer-feeding investigations and large charts displayed from vantage points were prepared for this purpose. Many additional requests from Fair Associations for the view herd have been received for the coming season. The time of one Specialist has been occupied with campaigns to promote "Better Sires, Better Stock," the capsule treatment for worms in hogs, club work, etc.

PUBLICATIONS

The same lack of assistance in the Department which has caused the classroom work to monopolize the time of the Profes-

sors to the exclusion of any research is also responsible for their failure to prepare much for publication. Professor Plumb's "A Study of Farm Animals" has been completed and is just off the press. He has also manuscript for one other book in preparation and has contributed to the Young People's Cyclopedia of Agriculture to be published by the Bellows-Reeve Company. Professors Kays, Conklin, and Gay have also written chapters for this Cyclopedia.

RECOMMENDATIONS

Buildings

It should be borne in mind that the new barns now in course of construction cannot be used until the ground about them is properly graded, passable roads to and about them constructed, a series of lots laid out and fenced, and water and light installed. Removal of all the stock across the river will also necessitate a considerable amount of pasture fencing before the next pasture season.

A feeding plant conveniently located and consisting of sheds, lots, and a silo, should be provided in order that commercial beef production may be demonstrated to the students and that first-hand information may be secured by the Extension Specialists.

The same reasons for a livestock building across the river in addition to the five barns reported last year still exist, but the need for this building is more acutely felt.

Faculty

The sectional plan upon which the Department of Animal Husbandry is organized permits of a much greater degree of specialization on the part of the student than when horses, cattle, sheep, and swine are all studied in general. Each of the five distinct lines of livestock production, i.e., Horse Production, Beef-cattle Production, Dairy-cattle Production, Swine Production, and Sheep Production, are taught in separate courses by specialists. Furthermore, these specialists have charge of the studs, herds, or flocks of the class of stock in which they specialize so that they can demonstrate in the barns the practices they advocate in the classrooms. As stated last year, a Dairy-production Specialist is necessary to complete the sectional arrangement and to enable us to present the dairy work on the same basis as the other lines of livestock specialization. The Department has already been embarrassed by the request from students that a Dairy-judging Team be entered in the National Dairy Show Contest the same as in the contests of the International Livestock Exposition and the National Swine Show. Professor

Conklin has been giving the dairy-cattle work under a makeshift arrangement, but this will not be feasible another year if the Meats Course, which is one of the newer and more important branches of the work, is given, as I hope it may be. Professor Conklin's specialization is in Beef Cattle and Meats, which correlate well, and he has worked up a very strong course in each. The dairy work is so unrelated to either that it is most illogical to expect the same man to give it, even if the time at his disposal made it possible.

Fellowships and Scholarships

It is important that much more graduate work be offered than at present when limited instruction as well as funds make it impossible to pursue much real research. Graduate work is essential for two reasons: First, each year there are one or two students graduating who are ambitious and have proven themselves qualified to engage in college work. And each year the Department is asked to recommend men of some experience to positions in other colleges. Most of the men desiring to take graduate work cannot do so unless appointed to some positions carrying compensation. If two graduate assistantships and two fellowships were allotted to this Department, professors could relegate to these half-time assistants much of the routine to which they must now devote a great deal of effort, thus gaining time to direct graduate work. Furthermore, promising graduates could be advanced to positions in which they might prove themselves and gain experience which would qualify them for the recommendation of the Department when requests for men were received. By this means, Ohio State could place its share of men in college positions.

State graduates are each year awarded assistantships or fellowships at other institutions, and many applications for such awards from graduates of other colleges are received here. We hope to be able to offer inducements in the way of assistantships and fellowship appointment to graduates of other colleges to take advanced work at State. With no experiment station, Ohio should excel in graduate courses, but this cannot be until the elementary teaching load is lightened and graduate assistantships and fellowships are provided.

Research

In the absence of the experiment station, funds should be available for the investigation of a limited number of well-chosen research projects.

Each professor is confronted with problems in his particular field which he would like to make the subject of research projects.

Not only is it important that this information should be secured, but participation in some investigational work enhances one's efficiency as an instructor.

It is highly desirable, also, that some experimental work in support of the Animal Husbandry Extension program should be carried out.

Respectfully submitted,

CARL W. GAY, *Head of Department.*

ANNUAL REPORT OF THE DEPARTMENT OF BOTANY

DEAN ALFRED VIVIAN:

DEAR SIR—Following is my report of the activities of the Department of Botany for the year 1921-1922:

The outstanding features of the year's work of the Department are: (1) the increase in number of students with no increase of facilities for accommodating them, (2) the offering of a real program of courses in plant pathology, (3) the large increase in students looking forward to the Doctor's degree, (4) the broadening of the interests of the students and staff through the Plant Institute.

During the year the total number of registrations in the Department was 1512. Four students—Lois Lampe, Mary Wurdack, Donald Anderson, and Raymond Dobbins—completed the work for the Master's degree. Jasper D. Sayre fulfilled the requirements for the degree of Doctor of Philosophy. Six men who took their doctor's degrees in other departments had minors in the Department of Botany.

CHANGES AND ADDITIONS IN CURRICULUM

After a hiatus of three years, the Department was again able to offer three courses in Plant Pathology. Mr. W. G. Stover devoted all of his time to this work. Because of the large enrollment in General Botany we were unable to give the course in Plant Microchemistry, Plant Morphology, and the first course in Economic Botany, although there were sufficient inquiries for these courses to justify their being given.

The Plant Institute held weekly meetings during the year and helped materially in broadening the interests of the graduate students. The research projects of the graduate students were greatly benefited by the criticisms offered by members of the Institute.

CHANGES AND ADDITIONS IN EQUIPMENT

No important additions to the equipment were made during the year. The additions asked for, and in some cases promised, during the preceding year have not materialized. With the present prospect of 20 students carrying on research work for the Doctor's degree, our equipment is quite inadequate. The lack of greenhouse space and temperature-controlled tanks puts us at a great disadvantage when compared with other large state universities. We have a staff well fitted to supervise research, and we now have the

students, but both are obliged to work under very discouraging conditions.

RESEARCH

Mr. Transeau completed a paper on the energy relations of plants. Two students carried on research work on stomata and algae under his direction.

Mr. Schaffner has several important problems on which progress has been made. These include: sex reversal in relation to the length of the daily light period; sex reversal in the Japanese hop; sex conditions in twins of *Arisaema*; North American species of *Equisetum*, and grasses of the prairies.

Mr. Stover is continuing his studies on the seedling blights of corn; the relation of certain organisms to stalk and ear rots, and to seed infection; apple blotch; and the diseases of clover.

Mr. Waller has directed certain experiments looking toward the control of surface erosion on the new dams in the Miami Valley by means of a plant covering. He has also completed an investigation of the ecological relations of the flax plant when grown for fiber, and for oil. To secure first-hand data on economic botany, *Mr. Waller* spent last summer in Europe and will continue his studies there during the present summer.

Mr. Sampson has continued his study of abscission. He is also directing research on the chemical nature of the cell walls in hemp, flax, and certain algae.

Mr. Tiffany has been accumulating data on the algal food of the gizzard shad and the common carp. He is also studying the substances found in the cells of the green algae.

Mr. Sayre has completed certain phases of a study of the behavior of stomata.

Mr. E. L. Stover has continued his study of the geographic distribution of North American grasses, and has taken up a morphological investigation of the underground stems of certain grasses. He spent the summer of 1921 at the University of Chicago, and will be there again this summer.

EXTENSION SERVICE

Mr. E. E. Clayton has devoted the major portion of his time to the testing of seed corn. This work, begun the previous year, has been extended to several other counties and should yield some important results during the present season. He has also conducted experiments which will contribute materially to our understanding of *Diplodia* as a casual organism in the root rot of corn.

He has also extended his previous work on the spraying of potatoes and the selection of disease-free seed potatoes.

SOCIAL SERVICE

Mr. Transeau acted as vice-president of the Ecological Society of America during 1921. He has continued as editor for "Morphology and Taxonomy of Algae" on the staff of Botanical Abstracts.

Mr. Waller is an editor on the staff of Ecology and treasurer of the Ohio Academy of Science.

Mr. Tiffany is business manager of the Ohio Journal of Science.

PUBLICATIONS

H. C. Sampson—An Ecological Survey of the Prairie Vegetation of Illinois. Bull. Nat. Hist. Survey of Illinois. Vol. 13, pp. 521-577, 9 figs., 30 plates. Aug., 1921.

J. H. Schaffner—North American Species of Equisetum. Amer. Fern Journal, Vol. 11, pp. 65-75, 1921.

J. H. Schaffner—Control of the Sexual State in *Arisaema Triphyllum* and *A. Dracontium*. Amer. Jour. Bot., Vol. 9, pp. 72-78, 1922.

J. H. Schaffner—Additions to the Catalogue of Ohio Vascular Plants for 1921. Ohio Jour. Sci., Vol. 22, pp. 91-94, 1922.

J. H. Schaffner—Progress of Sexual Evolution in the Plant Kingdom. Ohio Jour. Sci., Vol. 22, pp. 101-113, 1922.

RECOMMENDATIONS

Following are the recommendations for the future growth of the Department:

1. The providing of the Department with adequate equipment for the advanced courses and research work of the Department. Comparing the number of our advanced students with the equipment on hand, we are still less adequately equipped than we were one year ago. Research in biology has passed the stage when home-made and makeshift apparatus will meet the situation. Instruments for exact measurements, constant-temperature apparatus, and better facilities for the work in plant pathology are urgently needed.

2. The planting of a botanical garden which may be used in the field work in General Botany and Ecology.

3. The setting aside of an adequate area for an experimental garden for work in plant physiology and pathology.

4. The completion of the greenhouse and the building of a potting shed and storage house for the gardening operations.

5. The enlargement of the teaching staff to meet the increased number of students and the increased number of classes necessary to carry out the Four-quarter Plan.

The Department of Botany will be of greater service to the University, to the State of Ohio, and to science when these recommendations are carried into effect.

Respectfully submitted,

E. N. TRANSEAU.

REPORT OF THE DEPARTMENT OF DAIRYING 1921-1922

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following report for the Department of Dairying for the year 1921-1922:

Taking into consideration the necessity for conservative operation on the part of the Department, due to limited space, assistance, and equipment, the result of the past year's work has been very gratifying. The interest manifested by the students in all lines of the work has been unusual and the grade of work which they have done reflects particular credit upon them.

The resumption of the sales department, whereby students are given an opportunity to gain wider knowledge and practical experience in the manufacture and sale of dairy products, has been a decided advantage.

During the year a total number of 554 students enrolled in the various courses offered by the Department. Three men carried on work for a Master's degree with majors in dairying.

CHANGES IN CURRICULUM

A dairy trip for which credit was given was made by 25 students. Fifty-seven of the best dairy farms in the State were visited and a study made of the methods of feeding, breeding, and dairy-herd management. The trip extended over a period of two weeks and covered a distance of approximately 900 miles.

CHANGES IN EQUIPMENT

A new hardening-room was built in the Dairy Laboratory and a new pasteurizing vat installed.

EXTENSION SERVICE

In the interest of agricultural extension in dairying the Head of the Department has attended 43 meetings during the year in different sections of the State, giving instructions in feeding, breeding, co-operation, cow-testing association work, and official testing. In addition to this, he had two weeks of Farmers' Institute work and attended nine meetings and conferences in other states.

Mr. McKellip, the dairy fieldman, devoted his entire time to dairy-extension work. He assisted with 40 dairy-judging schools which were attended by 400 boys and girls; held 100 dairy-feeding schools; helped in the organization of calf clubs; organized two bull

associations and 10 cow-testing associations, in addition to supervising those already in operation.

Mr. Stoltz has given some time to the promotion of the Swiss-cheese business in Ohio. His work has been to help the manufacturers to improve the quality of Swiss cheese and secure a better market. The work has been in co-operation with two factories, with the result that the farmers received 50 percent higher prices than at other factories.

COW-TESTING ASSOCIATION WORK

During the year, 10 new cow-testing associations have been organized and 18 old ones reorganized. These 38 active associations are keeping milk, butterfat, and feed records on about 12,000 cows. With such a record the farmer has a chance to sell his unprofitable cows and increase production, and by feeding in a scientific manner more milk at less cost can be produced.

A great deal of interest has been shown in different parts of the State in this phase of work the past year.

OFFICIAL TESTING

Last year an appropriation of \$4000 a year for two years was made by the Legislature for the purpose of helping to pay expenses necessary for carrying on the work of official testing for the advanced registries and register of merit. This has made it possible to carry on the work in a more efficient manner. It has also been possible to procure men better qualified for the work than during the past few years, so that the force of 89 supervisors has been comprised of men who have carried on the work satisfactorily.

From June, 1921, to June, 1922, 3873 cows were officially tested for the Advanced Registry and Register of Merit, under the supervision of the Department. Of this number, 1193 were Holstein-Friesian cows tested for seven days or longer for what is termed a "short-time record." Two thousand six hundred and eighty cows were tested for two days each month for a year. The number of cows of each dairy breed on test during the year are as follows:

Jerseys.....	1080
Holsteins.....	580
Guernseys.....	317
Ayrshires.....	68
Shorthorns.....	43
Brown Swiss.....	8
Dutch Belted.....	4

Ohio tests a greater number of Jerseys than any other state. More thousand-pound Holstein-Friesian cows have been bred and developed in the State than in any other; and 13 of the Guernsey class leaders have made their records in Ohio. These results show that official testing is one of the greatest determining factors in herd improvement. In fact, that it is probably the best method of assisting nature in the evolution of the dairy animal. It locates and points out valuable individuals so that they may be used for constructive breeding.

During the past year the owners of cows on official test have paid \$49,157.85 for official tests made by supervisors sent out by the Department.

PUBLICATIONS

Publications and articles were written by members of the Department as follows:

O. Erf—Pamphlet, "Instructions for Feeding and Developing Cows for High Milk and Butterfat Production"; "Feeding the Jersey Cow" (Jersey Bulletin); "Co-operation vs. Corporation" (Ohio Farmer).

Ivan McKellip—"Suggestions for Computing Rations for Dairy Cows" (Extension Service Bulletin).

RECOMMENDATIONS

Undoubtedly the greatest need of the Department is a building suited to its requirements. However, improvements might be made on present quarters which would make them more satisfactory.

New equipment and repairs on some of the old would make the laboratories better fitted for instruction of students.

A lantern and screen would make it possible to illustrate work in the classroom and thus make it more effective.

An increase in the number of men in the instructional force and for field work would aid materially in increasing the amount of work done by the Department.

While the Department makes the above recommendations, its policy in the future, as in the past, will be to serve the interests of the students of the University and the dairy industry to the best of its ability under conditions as they exist.

Respectfully submitted,

O. ERF, *Head of the Department.*

REPORT OF THE DEPARTMENT OF FARM CROPS

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Farm Crops for the year 1921-1922:

The work of the Department during the year has proceeded normally with no special features. The number of students in elective courses is increasing and the courses have been strengthened by the accumulation of more and better material for laboratory exercises.

RESEARCH

Each member of the Department has one or more individual research problems in progress, and all members help more or less with the general departmental projects.

The field projects under way are:

1. Yield tests of 18 varieties each of wheat, oats, and soybeans in 1/40-acre plots.
2. Rod-row tests of several hundred strains and varieties each of wheat, oats, barley, and soybeans.
3. Breeding wheat for yield, quality, and disease resistance by crossing and pedigree selection.
4. Genetic studies of the lemma appendages of barley.
5. Inheritance of the awn in oat hybrids.
6. Broom-corn breeding.
7. Breeding corn by the method of inbreeding following by crossing.
8. Study of the inheritance of certain endosperm colors in corn.
9. Study of the producing power of corn alone compared with corn and soybeans growing together.
10. Relation of time of harvesting soybeans to yield and quality of the crop.

Mr. Park is interested chiefly in the breeding experiments.

Mr. Meyers, a graduate student, has done most of the work in the corn-breeding projects up to this time. Mr. Cutler is studying the nature of the brown and black colorations that occur on yellow and green-seeded soybeans.

Mr. Willard is starting work on the life history of the various sweet clovers. He is conducting yield tests of a series of perennial and annual forage crops. During the past winter he has studied the effect of carbon bisulphide in varying strengths and times of exposure on the viability of different seeds.

Mr. Borst's individual problems are: (1) the inheritance of the awn in hybrid oats, and (2) date and rate of planting soybeans in relation to growth.

The experiment field serves as a demonstration to students and to other visitors. On September 9 a Soybean Day was held, when farmers from Franklin and surrounding counties drove in to see the soybean experiments. On June 14, the project leaders of the Franklin County Farm Bureau visited the field to see the wheat and oats plots.

EXTENSION

The main extension projects of the year have been:

1. Standardization of Varieties of Wheat.
2. The Men's Ten-acre Corn Contest.
3. Growing Corn and Soybeans for Hogging Purposes.

The work of standardizing varieties of wheat is being done in close co-operation with the Ohio Seed Improvement Association, which organization conducts the inspection and certification of seed. In the spring of 1922, 800 applications for inspection of wheat fields were received from 63 counties. Doubtless many of these will fail to pass the requirements for certified seed but it means that there is great interest in pure seed and that a large amount of high-grade seed will be available for fall seeding. Trumbull, Gladden, and Fulhio are the most popular varieties. The Ohio Miller's State Association has indorsed the standardization program and passed a resolution recommending that their members pay a premium for the best milling varieties of wheat.

Forty-six men completed the Ten-acre Corn Contest in the fall of 1921. Of these, eight qualified for the 100-Bushel Corn Club by growing 1000 or more bushels on 10 acres. Plans are now under way for making a wider use of these fields as demonstrations of the best corn-growing practices.

The project on growing corn and soybeans for hogging purposes has been started within the year in co-operation with the Animal Husbandry Department. The interest in this practice has been increasing rapidly, and it is the purpose of the project to demonstrate under what conditions the practice is good and to compare results with corn containing no soybeans.

During Farmers' Week the Department conducted a program of lectures. Members helped with the State Corn and Grain Show and installed an educational exhibit in the Armory where the show was held. An exhibit was also put up at the State Fair.

PUBLICATIONS

Park, J. B. with C. J. Willard and H. L. Borst—Growing Soybeans in Corn. Mon. Bul., Ohio Agr. Exp. Sta., Vol. VII, 5 and 6, June, 1922.

Hanger, W. E.—Rules for the Men's Ten-acre Corn Contest. Extension Service Circular.

Willard, C. J.—Experiments With Hubam Clover. Ohio Agr. Exp. Sta., Mon. Bul., Vol. VII, 1 and 2, Feb., 1922.

Willard, C. J. with H. L. Horst—Scarifying Ohio Sweet Clover Seed. Ibid., Vol. VII, 3 and 4, April, 1922.

Willard, C. J. with J. B. Park and H. L. Borst. (ref. above.)

Borst, H. L. with J. B. Park and C. J. Willard. (ref. above.)

Several articles were contributed to farm papers by the Department staff.

RECOMMENDATIONS

The Department needs an additional laboratory to relieve congestion in the regular classes and to provide space for graduate students.

Decidedly better instruction could be given if greenhouse space were available for growing fresh material in winter. A greenhouse is needed also for research purposes.

A service building is needed adjacent to the experiment field for threshing, cleaning, and storing grains and for housing farm machinery.

Respectfully submitted,

J. B. PARK, *Head of Department.*

REPORT OF THE DEPARTMENT OF HOME ECONOMICS 1921-1922

DEAN ALFRED VIVIAN:

DEAR SIR—The report for the Department of Home Economics for the year 1921-1922 is hereby respectfully submitted.

The work of the past year has been uninterrupted and there has been an opportunity for constructive plans and development in each phase of the work. The staff of the textile and clothing division has been strengthened and is doing superior work under the direction of Mrs. Walker. The subjects of foods and nutrition would logically form a division. Very good work has been accomplished but without a definite chairman. The teacher-training division is continuing valuable service under Mrs. Adams, in resident teaching and in supervision of practice in the field. This division provides for the training of teachers in both general and vocational Home Economics. Miss Findley, as chairman of the institutional management division, is developing excellent courses. The Home Economics Extension Service is doing progressive work under the efficient leadership of Miss Sayles.

The work of the Department has been well supported by the co-operation of other departments and is especially happy in the closer correlation of the Art courses offered to our students.

There have been many calls for assistance to which the Department has responded. For example, a food budget for the Red Cross for an emergency in the mining district and advice concerning the feeding of prisoners in local institutions.

The Department has participated in several events the largest of which was the annual Farmers' Week. An interesting program for homemakers was prepared and the meetings were attended by large and appreciating audiences. The establishment of a nursery for children was a valuable addition in that it provided a suitable place for them while their parents attended the meetings.

Members of the resident staff and of the extension service assisted with the program for Boys' and Girls' Club Week. It is a matter of satisfaction that this event has been given a place of importance and that it has for the past two years been scheduled at a time when it has been possible to contribute to the program.

As a representative of the Department, Mrs. Adams provided for and lead a sectional meeting for Home Economics teachers as a part of the second annual Educational Conference arranged by the College of Education. The meeting was well attended and the

program proved to be of value. The State Home Economics Association scheduled one of its quarterly meetings in conjunction with this meeting.

There have been many calls for talks on various Home Economics subjects, which have been given by members of the Department at various meetings, such as the Conference of Rural Pastors, Home Economic organizations, and community-house groups.

Home Economics exhibits for the State Fair were taken care of by the extension staff and a statement concerning them is included in the report of the Extension Director.

CHANGES AND ADDITIONS IN CURRICULUM

Owing to the adoption by the University of the Four-quarter Plan and the consequent need for adapting the whole organization to it, we have taken advantage of the opportunity to revise the Home Economics curriculum.

An effort was made to render it more flexible by reducing the amount of time given to required courses and by increasing the time for electives. As a result it will be possible for advanced undergraduates to select, in addition to the required courses, subjects suited to their plans for future work or study.

More nearly equal emphasis has been placed upon the various phases of Home Economics in the general curriculum. For example, the time given to the subject of textiles and clothing which was so meager has been increased. The time given to food study has been somewhat decreased, so that these two important divisions are now more nearly balanced. It has also been possible to reduce the amount of chemistry. In the time so conserved a course in Home Equipment has been provided. The number of hours given to the course in Sanitation has been reduced so as to make it possible to add a course in Nursing which has been included in the new curriculum.

An interesting addition is a course in Child Care which is to be offered to seniors. Courses in Institutional Management have been added to the electives in Home Economics. One of them is general and requires two Quarters for completion; the other is a brief course in School-lunch Management and is offered to those who are preparing to teach.

The combined curriculum in Arts-Home Economics has been revised on a satisfactory basis. The Home Economics curriculum as offered in the College of Education has also been revised, but it has also been impossible to include a number of Home Economics

courses which should be required in preparation for teaching the subject.

CHANGES AND ADDITIONS IN EQUIPMENT

As has been stated in previous reports there was need for a practice house in addition to the practice department. It was, therefore, a happy solution of the problem when an appropriation for renting a furnished house was made from the Smith-Hughes fund for the training of teachers of Vocational Home Economics. A suitable house was found on West Eleventh Avenue facing the campus. It has been used continuously since December 1. With the increased accommodations it has been possible to have the seniors in Home Economics live in the practice house or apartment in groups for a period of six weeks each.

A small laboratory has been arranged for the use of students in the School-lunch Management course.

There has been very little other change or addition in equipment except the installation of two ovens with heat regulators for use in experimental work.

RESEARCH

Because of a heavy teaching load for each instructor it has been impossible to devote much time to research. Professor Shelow carried on a nutrition experiment which was of interest and educational value for her students.

There were four graduate students registered in the Department this year, one of whom, Miss Helen Clark, finished her work for a Master's Degree. Her thesis was written under the direction of the Department of Sociology.

A number of interesting problems have been studied by seniors. The subjects are listed as follows:

Lesson Plans for a Correspondence Course.

A Household Budget.

Food Budget for the Family Service Society of Columbus.

Nutrition of Under- and Over-weight Students.

Report of Foods and Nutrition Class at the Gladden Community House, Columbus, Ohio.

Dietetics and Foods Class at Gladden Community House.

Report of Health Classes at Grandview Heights School, Columbus, Ohio.

A study of Minor Fibers.

EXTENSION SERVICE

The Home Economics Extension Service is making remarkable progress throughout the State. It is organized on a basis whereby

its effectiveness is multiplied many fold through the training of local leaders who are responsible for the ultimate success of the work.

There are in the State office the State Leader of Home Economics Extension work, an assistant leader, and six subject-matter specialists, all of whom are regarded as members of the Home Economics Department as well as of the Agricultural Extension Service. In each of 10 counties there is a home-demonstration agent who is jointly employed by the State and by the County through the co-operation of the County Farm Bureau.

Definite projects are being carried on in clothing construction, nutrition, health, and home management. These projects have been undertaken with interest not only in the few counties having home-demonstration agents but have been carried on with remarkable results in many other counties through the co-operation of the agricultural agents.

A statement concerning the Home Economics Extension Service may be found in the report of the Extension Director.

VOCATIONAL HOME ECONOMICS

Beginning with July 1, Vocational Home Economics teaching throughout the State has been under the supervision of Miss Enid Lunn, who at that time left this Department to establish headquarters with the State Department of Public Instruction.

Mrs. Adams has continued to be in charge of Vocational Home Economics teacher training in this University and is assisted by Miss Henrietta Gromme and the corps of critic teachers. As director of Vocational Teacher Improvement, Miss Gromme, has spent two-thirds of her time visiting teachers in the field.

By co-operation of the State Supervisor and the teacher-training division of this Department a conference for vocational teachers was planned and took place in August when the teachers were ready to go into their various fields of work. News letters have been compiled and sent out bimonthly to the teachers.

Courses of study for use in the vocational schools have been revised by the critic teachers and director of teacher improvement.

As has been indicated in other parts of the report of the Home Economics Department, there are increased opportunities for teacher training. The establishment of a practice house has made it possible for each student to have a longer period of home-management practice. More actual experience has been given in home-project work. Each student undertakes one for herself, and later supervises a project of a high-school pupil. An elective course

in School-lunch Management is offered in the Department and students have actual experience in school-lunch work.

RECOMMENDATIONS

It is very much to be hoped that the Department will have greater opportunity for promoting research along various lines and that it will be possible to take care of graduate students in a creditable manner. No course in research is being offered for the coming year as it would be unwise to add to the anticipated teaching load.

The Department wishes to express appreciation of the courtesy and helpfulness of the President and the Dean, and the co-operation of our colleagues.

Respectfully submitted,
FAITH R. LANMAN, *Head of Department.*

REPORT OF THE DEPARTMENT OF HORTICULTURE

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Horticulture for the year 1921-1922:

The work of the Department has progressed fairly satisfactorily in spite of the fact that we have been hampered by a lack of help. Our handicap in this respect has been relieved somewhat by employing senior students to assist with the laboratory work and to a certain extent with the teaching.

CHANGES AND ADDITIONS IN CURRICULUM

There were no changes made in our courses of study during the year, but a number of important additions are ready to be presented for adoption just as soon as additional instructors can be provided.

CHANGES AND ADDITIONS IN EQUIPMENT

No important changes have been made in our equipment during the year. In general we are well provided for in this respect, but we do need a small motor truck, a much larger spray laboratory, better insulation in our refrigeration-rooms, and much larger greenhouse space.

RESEARCH

But little can be accomplished in the way of research so long as our instructors are busy every school day from 8 o'clock in the morning to 5 in the afternoon with other duties. Saturdays are largely occupied with inspection trips, and what little writing is accomplished usually is done at night.

Some of the problems we are interested in and are doing a little work with, follow:

The effect of varying amounts of soil water on fruit-bud formation.

A study of secondary blooming of pome-fruit trees (a phenomenon that may be associated with mutation).

Do varieties run out by means of asexual propagation?

Methods of retarding the blooming period of fruit trees.

The effect of light on fruit-bud formation.

The rooting of apple-tree cuttings.

Monograph studies of Iris.

Monograph studies of Gladioli.

Influence of color in flowers by soil treatment.

Propagation of perennial flowers.

Strain tests with vegetables.

The work with vegetables that was reported on in 1921 has been at a standstill during the year, due to the absence of Professor Montgomery.

The list given above will give an idea of the important problems that await solution. And this can be added to almost indefinitely.

EXTENSION SERVICE

The personnel of our extension service is the same as last year: Mr. Cruickshank and Mr. Beach in pomology, and Mr. Glines in vegetable gardening. Mr. Cruickshank has been enjoying a well-earned half-year of absence beginning in February of the current year.

In the meantime all lines of work have been pushed with vigor and a successful year has been completed.

PUBLICATIONS

W. Paddock—Apple Growing. The Life-planning Institute.

P. H. Elwood, Jr.—State Parks for Ohio. Arbor Day Manual. Good Roads and Parkway Map of Franklin County, Ohio.

A. C. Hottes—Contributed 125 articles on flowers to Young People's Cyclopedia of Agriculture. Published by Jno. A. Bellows. Practical Plant Propagation, a revision of Commercial Plant Propagation; published by A. T. DeLaMare Co. Little Books of Annuals, published by A. T. DeLaMare Co. Annuals for Pleasure, Ohio Farmer, February 18, 1922.

A. D. Taylor—The Complete Garden, published by Doubleday Page & Co. Specifications for Clay Tennis Courts, Landscape Architecture, April, 1922. Outdoor Swimming Pools, Country Life, 1921. Construction of Walks, Landscape Architecture, January, 1922. Estimating, Landscape Architecture, 1921.

STUDENT ACTIVITIES

As was stated in our last report, student activities continue to be important features of our work. These include the Horticultural Festival, in which all five sections of our Department take part; participating in national and interstate apple-judging contests, and the publication of a horticultural manual.

In all of this work the students act on their own initiative, as far as possible. It is gratifying to know that we have one of the most active and effective horticultural societies in the country and frequent inquiries are received from other institutions in regard

to it. This reputation, we are sure, had an important bearing on the selection of two of our seniors, during the year, to good positions in agricultural colleges in neighboring states.

DEPARTMENTAL ORGANIZATION

As the Department of Horticulture is now organized we have what amounts to five distinct departments: Landscape Architecture, Floriculture, Forestry, Vegetable Gardening, and Pomology. These five sections are just as distinct and just as important in their way as are any other five departments in the College, a fact that appears to be difficult for the average individual to understand. In the meantime, our organization is such that the five sections are run with the minimum amount of office help and equipment, instructional force and room. In the event that the Department should be divided, as has been done in other instances, it is obvious that the same work could be done only at a largely increased cost to the University. With these facts in mind, it would appear to be fair that our instructional force should receive salaries in proportion to the importance of their work and to the success with which they meet the demands placed upon them.

Respectfully submitted,

W. PADDOCK.

REPORT OF THE PLANT INSTITUTE

DEAN ALFRED VIVIAN:

DEAR SIR—The following report of the work of the Plant Institute of the Ohio State University is respectfully submitted:

The Institute was organized within the College of Agriculture during the spring of 1921. Its purposes are: to conduct a seminary for the discussion of problems connected with plant life, to further and improve graduate work in such subjects, and to support co-operative research projects among departments and individuals.

The present members of the executive committee are: A. E. Waller, H. C. Sampson, J. B. Park, C. J. Willard, F. E. Bear, and W. Paddock, chairman.

During 1921-1922 a weekly seminary was held with an average attendance of about 30. Those attending were members of the instructional force and graduate students of the Departments of Botany, Horticulture, Farm Crops, Agricultural Chemistry and Soils.

Thesis projects are presented to the executive committee and must meet its approval. During the year, 11 master's thesis projects and four doctor's thesis projects have been approved. These projects, together with reports of progress on them, are on file in the office of the Secretary.

Some preliminary discussions of departmental and co-operative research projects were held. It is expected that some of these may be approved and started during the coming year.

The Institute recommended the purchase of three important sets of journals by the Library. One of these, *Landwirtschaftliche Jahrbücher*, was obtained.

During the coming year the seminary will be held every other week, so that the departments may use the alternate weeks for their own meetings.

Very truly yours,

THOMAS G. PHILLIPS, *Secretary of the Plant Institute.*

REPORT OF THE DEPARTMENT OF POULTRY HUSBANDRY

DEAN ALFRED VIVIAN, *College of Agriculture*:

DEAR SIR—I respectfully submit the following annual report of the Department of Poultry Husbandry for the year 1921-1922:

There were no changes in curriculum in the regular agricultural courses. However, a three weeks' winter course in Poultry was offered for the first time, and was met with favor.

RESEARCH

The main research project continues to be the subject of poultry breeding, and this has been carried on by continuing the use of the trap nest with several hundred fowls. The Department has been able to develop during the past three years some exceptional individuals, and hopes to be able to establish strains of high-producing individuals that can be used in connection with the certified flocks of Ohio.

EXTENSION SERVICE

During the summer of 1921 a state-wide culling campaign was carried on, reaching into 80 counties. A total of 2918 demonstrations were held, with an attendance of 68,285. The hens handled by the County Agents totaled 308,092, of which 78,372, or 25 per cent, were found to be culls.

The demonstration-farm project has an enrollment of 656. This project continues from November, 1921, to November, 1922. This project consists of keeping an accurate account of the poultry, including expenses, receipts, etc.

Egg-marketing and grading demonstrations were given in 50 counties.

A poultry-judging school was held at the University the last week of June, 1921, at which 175 people, including 42 County Agents, were in attendance.

Many meetings have been held on seasonal poultry topics. County poultry committees were met to plan out the poultry work in the various counties.

A poultry-certification project was started last year and will be continued on a larger scale during 1922.

PUBLICATIONS

Department of Poultry Husbandry—The Ohio Colony Brooder House, Extension Bulletin, Vol. XVII, No. 5.

E. L. Dakan—Summer Management of the Laying Flock, Extension Bulletin, Vol. XVII, No. 9; Feeding Hens for Egg Production, Extension Bulletin, Vol. XV, No. 4; Culling the Poultry Flock, Extension Bulletin, Vol. XV, No. 13.

F. S. Jacoby—Artificial Incubation of Chickens, Extension Bulletin, Vol. XV, No. 16.

G. S. Vickers—Artificial Light.

RECOMMENDATIONS

In order to carry on our experimental work, it is necessary that we have a more dependable supply of feed. A change in the method of purchasing feed would be welcomed. Considerable new equipment is needed in laboratory, notably new exhibition cages for judging and scoring poultry. The poultry buildings are badly in need of repairs, and it is to be hoped that this matter can be attended to before another school year. The rotary fund established during this year has proved of great value by enabling the Department to obtain minor supplies without unnecessary delay, but it has not been possible to utilize rotary funds as originally planned, because of the curtailment of funds for labor. It is hoped that sufficient funds will be appropriated during the coming year to care for the labor needs of the Department.

Respectfully submitted,

F. S. JACOBY, *Head of Department.*

REPORT OF THE DEPARTMENT OF RURAL ECONOMICS

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Rural Economics for the year 1921-1922:

At the end of the Summer-school Session Mr. Lantis resigned to take up graduate and teaching work in Rural Sociology at the University of Minnesota. Mr. C. E. Lively from that institution was appointed to take his place. Beginning July 1, 1921, Mr. Erdman was granted a leave of absence for one year to take charge of the Cost of Marketing Division of the United States Bureau of Markets. Mr. Wallin, who resigned as Extension Specialist, effective July 1, 1921, was appointed Assistant Professor to teach Mr. Erdman's courses during the year. Mr. B. A. Wallace from the University of Minnesota was appointed, September 1, as Extension Specialist in Marketing to fill the position vacated by Mr. Wallin. The most significant change during the year was the appointment of Mr. Lively as Assistant Professor to give his full time to the development of the work in Rural Sociology. It is hoped that from now on this field of work may be justly developed. Due to the absence of Mr. Erdman, little has been done in the marketing field, aside from the teaching and extension work.

RESEARCH

The research work for the year has consisted mainly of the continuation of work in progress, only one new project having been started, namely, that in Rural Social Organizations.

SURVEY OF TRUCK FARMS IN MUSKINGUM VALLEY

This project was continued along the lines indicated in the last report. Two years' records have now been secured. It is planned to continue the work for one more year. The data secured are being used by the extension men in their work.

FARM COST ACCOUNTS

The cost-account circles, one in Medina County and one in Greene County, have been continued. There are now 19 men in the Medina County route and 20 in the Greene County route. The first year's results have been summarized and the summarizing of the second year is now in progress. Statements have been given out showing the costs of producing the various crops and classes of livestock. The results of this work have been in much demand. It

has greatly strengthened the teaching work in Farm Management and has been of great value to the extension workers.

CONTINUED SURVEY OF TRACTOR FARMS

The fourth year's records on these 100 farms were taken in March and April. The records for the four years have been summarized. Interesting and valuable data are now available. It has been found, for instance, that the average cost of an hour's work with a tractor is \$1.25. We hope to prepare the material for publication after another year's records have been secured.

PRICES OF OHIO FARM PRODUCTS

This study was completed and the material submitted to the Experiment Station for publication. It deals with the prices of Ohio farm products during the past 20 years. It is scheduled to be published in September.

RURAL SOCIAL ORGANIZATION IN OHIO

Mr. Lively has given considerable time to the carrying out of a survey of the character and extent of rural social organizations in Ohio. The study is now nearly completed and partly compiled. The study has been of invaluable aid in the development of the teaching work in Rural Sociology.

EXTENSION ACTIVITIES

Mr. Taber, Mr. Arnold, and Mr. Wallace have given their full time to extension work. Probably the most noteworthy progress for the year has been the development of an effective extension program in marketing. A full report of the extension work for the year has been submitted to the Director of Extension.

PUBLICATIONS

J. I. Falconer—Two articles in the Monthly Bulletin of the Ohio Agricultural Experiment Station; one article in the Journal of Farm Economics; six articles in Extension Service News; three full-page articles in the Ohio Farmer.

R. F. Taber—Five articles in the Extension Service News; one article in the Journal of Farm Economics; two articles in the Ohio Farmer.

C. R. Arnold—Three articles in the National Stockman and Farmer.

In addition to the above, the Department has averaged to contribute one news item every other week for the Extension Service

News Letter. These items have been based upon the research work in progress.

RECOMMENDATIONS

Funds are needed which will enable the carrying on of research work in marketing and in the social side of rural life. There is much agitation relating to the marketing of farm products; there is also much misinformation relating to the marketing problems. There is need of thorough study. Various agencies are now groping more or less in the dark. The University has an opportunity for service in securing and publishing the facts. The rural social field is as yet practically untouched. Funds are needed that research work may be started at least in a small way. More office space is badly needed. At present three members of the Department, two stenographers, and two clerks are located in one office. Often from two to three students are working in the same room. In the other office four members of the Department have desks. A conservative estimate would be that the work output of the members of the Department is reduced by 25 percent and that of the stenographers, clerks, and student labor by 35 percent because of the crowded condition.

An accounting laboratory is needed. The accounting classes have been badly handicapped the past year because of lack of laboratory facilities. We were unable to secure definite assignment to a room which would permit the use of our accounting desks. It was necessary for students to do their accounting work on the arms of chairs and even on the windowsills. The Department has the necessary desks, but throughout the year they have been stacked in the basement because of lack of space.

Respectfully submitted,

J. I. FALCONER, *Head of Department.*

REPORT OF DEPARTMENT OF ZOOLOGY AND
ENTOMOLOGY

GENERAL STATEMENT

The year 1921-1922 has been exceptional on account of the large amount of advanced graduate work in this Department, five men completing the work for the Doctor of Philosophy degree. Otherwise the courses and the amount of work have been about as in the previous year. No important changes have been made in the equipment. The teaching staff has suffered some changes, but no additions have been made to the number on the staff.

The outlook for the coming year in the graduate work indicates that we shall have fully as much of this grade to handle as in the past year, and the development of this phase of the work of the Department is very gratifying.

A total of 1051 students were enrolled during the first semester and 758 during the second semester in the various courses offered by the Department.

Five men completed the work for the degree of Doctor of Philosophy in June, 1922: D. M. DeLong, W. V. Balduf, Herbert Spencer, H. L. Dozier, and L. L. Huber. In addition to these, five students completed the work for the Master's degree: A. E. Miller, C. R. Cutright, Robert N. McCormick, T. J. Naude, and Mary Auten. Besides these, seven others were registered for graduate work in the Department, making a total of 17 graduate students.

CHANGES AND ADDITIONS IN CURRICULUM

As the work of the reorganization on the Four-quarter Plan was under way, no changes or additions in courses were thought advisable. The changes which were introduced by the Four-quarter Plan, going into effect in the Summer Term, 1922, will be slight, except for the rearrangement due to shortening the periods from semester to term with the proportionate increase in the number of hours per week. A slight amount of consolidation of courses has been made possible under the new plan.

THE LAKE LABORATORY

The personnel of the staff and the equipment of the Laboratory are the same as the past year. Twenty-three students were registered for work at the Laboratory during the season of 1921. Of these, only six were undergraduates, and 14 different colleges were represented by the students in attendance. The limit of our

capacity under present conditions has been reached and it is impossible to take care of a larger number, either in the Laboratory or the residence. The Laboratory is still housed in the upper story of the State Fish Hatchery, and our thanks are due to the State Division of Fish and Game, not only for the use of the laboratory space, but for many courtesies extended to us in various ways.

Our living quarters consist of a cottage rented for the six weeks and paid for by a pro rata charge to students and faculty residing there.

The work of the Lake Laboratory has not been arranged on the Four-quarter Plan as yet, for the reason that we find it impossible to keep the Laboratory open more than six weeks. When a permanent building for residence and laboratory purposes is provided, it is hoped that a full Quarter's work may be offered, with a considerable increase in the teaching staff and the number of advanced and graduate students. No effort whatever has been made to advertise the Laboratory for several years for the reason that it is impossible to take care of more students than come to us without any advertising. When the Laboratory can be kept open for the whole of the summer period it will be possible to accomplish much more in the way of research, and the opportunities for research students would be vastly increased. Our Lake Laboratory site has such natural advantages that with proper equipment and support it might become foremost among the fresh-water biological laboratories in the country.

RESEARCH

A heavy teaching program occupied most of the time and energy of the members of this Department, but nevertheless a considerable amount of research work has been completed and numerous other investigations are under way. All members of the staff have been engaged in research as time permitted. An increase in the number of graduate assistants would relieve the members of the teaching staff for more research work, and this, in my opinion, should be done. Higher-paid professors should not be required to give their time for things that can be just as well handled by persons not so well qualified for research.

Professor R. C. Osburn during the summer of 1921 continued to conduct research on the fishes of Ohio, as in the preceding season. Mr. E. L. Wickliff and Mr. W. C. Kraatz of the staff again assisted in this work, while Mr. L. H. Tiffany of the Botany Department and Dr. C. L. Turner of Beloit College were engaged for a part of the summer. This work has opened up numerous prob-

lems, some of which will be placed in the hands of graduate students for further investigation leading to the Doctor's degree. In addition, Professor Osburn has continued, during the teaching year, certain researches on fishes and on marine Bryozoa.

Research Professor Herbert Osborn has continued his work on the Hemiptera and on the insect enemies of meadows. Professor Osborn spent the months of January, February, and March in Mississippi, making additions to our insect collections, especially in Hemiptera, and gathered further data on the ecology of this group. He has published a number of papers and has conducted the research work of five men for the Doctor's degree and that of five other graduate students in Entomology.

Associate Professor James S. Hine has continued his research on Diptera.

Assistant Professor W. M. Barrows has continued his studies on certain problems in Genetics and on the ecology of spiders.

Assistant Professor F. H. Kreckler has completed certain problems begun at the Lake Laboratory and has under way still other investigations.

Assistant Professor C. H. Kennedy has actively pursued his research on the Odonata (Dragonflies) and has published several papers during the year.

Mr. E. L. Wickliff, Instructor, has continued his work on the distribution, ecology, and food of Ohio fishes.

Mr. W. C. Kraatz, Assistant, has given a major portion of his spare time to the study of the life history, food, etc., of one of our common minnows important in the food of game fishes.

Extension Professor T. H. Parks has been very fully occupied with the work of his office, but has found time to carry on important investigations on the control of the Hessian-fly.

Our graduate students have been very active in research work. Messrs. D. M. DeLong, Herbert Spencer, W. V. Balduf, H. L. Dozier, and L. L. Huber have completed the work for the doctorate, and, in addition to these, Messrs. W. C. Kraatz, A. E. Miller, T. J. Naude, R. N. McCormick, and Misses Mary Auten and Ruth M. Veth have completed work worthy of publication.

EXTENSION SERVICE

Extension Professor T. H. Parks has been in much demand and has spent the greater portion of his time in work about the State, at the special call of County Agents and in pursuit of his chief problems on the control of the Hessian-fly, the chinch bug, and potato and apple pests.

Professors R. C. Osburn, Herbert Osborn, and J. S. Hine, and D. M. DeLong have also assisted as occasion required, in the identification of pests and in correspondence concerning their control.

Professor J. S. Hine has given considerable assistance to the extension service in apiculture work, besides organizing and conducting a meeting of the beekeepers of the State during Farmers' Week.

In collaboration with the State Experiment Station and the State Department of Agriculture, the Department has rendered assistance in the wheat survey which has been of much importance in the control, especially, of the Hessian-fly.

There may be also mentioned under the head of Extension Service the collaboration of the Department with the State Division of Fish and Game, in which considerable service has been rendered throughout the year.

PUBLICATIONS BY MEMBERS OF THE DEPARTMENT

Raymond C. Osburn—Report on Fish Conditions in the Portage Lakes, Sportsmen's Bulletin No. 1, Division of Fish and Game, Ohio Department of Agriculture; A New Type of Bryozoan Giz-zard, with Remarks on the Genus *Buskia*, Ohio Journal of Science for May, 1922 (with Miss Ruth M. Veth); Some Common Misconceptions of Evolution, President's Address before the Ohio Academy of Science, Ohio Journal of Science, June, 1922; accepted for publication, Bryozoa of the Canadian Arctic Expedition; several other papers nearing completion.

Herbert Osborn—The Homoptera of Florida, The Florida Entomologist, Vol. 5, No. 1, July, 1921; Two Tachigalia Membracids, Zoologica, Vol. 3, No. 10, December 24, 1921; in press are two papers on the Homoptera of Cranberry Lake, New York. Several other papers are nearly ready for press.

Professor W. M. Barrows—Published, none. The Inheritance of Angioneurotic Edema, from a review of other literature (with Dr. J. M. Phillips), in press. Ready for publication, The Arachnid Palpal Claw with Especial Reference to Spiders; A List of Illinois Spiders with Especial Reference to Those Found in the Prairie; The Reactions of the Housefly to Radiant Heat. Four other papers are in progress.

Professor F. H. Kreeker—Emergence of a Mayfly from Its Nymphal Skin, Ohio Journal of Science, May, 1922. Accepted for publication, Origin and Activities of the Neoblasts During the Regeneration of *Microdrilus* Annelida, and Egg-case Deposition in a Parasitic Leech. Two other papers nearing completion.

Professor C. H. Kennedy—The Morphology of the Penis in the Genus *Libellula* (Odonata), Entomological News, Vol. XXXIII, February, 1922. The Homology of the Tracheal Branches in the Respiratory System of Insects, Ohio Journal of Science, January, 1922. The Phylogeny and Geographical Distribution of the Genus *Libellula* (Odonata), Entomological News, March and April, 1922. Other papers are in press.

Professor J. S. Hine—Descriptions of Alaskan Diptera of the Family Syrphidae, Ohio Journal of Science, March, 1922.

Walter C. Kraatz—In press, A Museum Pest Feeding on Glycerine Jelly Slides.

OTHER ACTIVITIES

Professor R. C. Osburn is Director of the Lake Laboratory. This office requires a certain amount of time in consultation with graduate students at the Laboratory and in administration work. Professor Osburn has been President of the Ohio Academy of Science during the past year. He had charge of investigation work for the State Division of Fish and Game during the summer of 1921 and will be similarly engaged during a portion of the summer of 1922. Committee work for the Graduate Council, especially in connection with the Sullivan Medal, and the chairmanship of the Biology Section of the State Educational Conference have also demanded a portion of his time.

Professor Herbert Osborn has given a considerable amount of time to the work of the Executive Committee of the American Association for the Advancement of Science. Professor Osborn has also served on important committees of the Association of Economic Entomologists and the Entomological Society of America. He is a Trustee of the Ohio Academy of Science Research Fund and Managing Editor of the Annals of the Entomological Society of America.

Professor C. H. Kennedy is Assistant Managing Editor of the Annals of the Entomological Society of America, and is in charge of entomology work at the Lake Laboratory.

Professor J. S. Hine is Secretary of the Ohio Beekeepers' Association.

Professor F. H. Kreckler is Acting Director during the session of the Lake Laboratory, an office which occupies his time pretty fully for the six weeks of the session. He is also Editor of the Ohio Journal of Science.

A large representation from the Department was in attendance at the scientific meetings during Convocation Week in To-

ronto. Eleven members of the staff were registered at the various meetings.

RECOMMENDATIONS

1. The rearrangement of the work on the Four-quarter Plan will necessitate some additions to the staff if the work is to be carried on satisfactorily all four quarters. In the Summer Quarter of 1922 it has been necessary to limit the work offered to the beginning courses in Zoology and Entomology. For the sake of teachers and others who may wish to work only during the Summer Quarter, it seems advisable also to offer work in Genetics, Evolution, the Teaching of Biology, and perhaps some other courses to be determined after a little experience with the personnel of the student body during this Quarter. The addition of an Instructor in Zoology and one in Entomology seems imperative in order to give the summer work and allow our present staff freedom for some one Quarter of the year.

More graduate assistants should also be added. These younger members of the staff give good value for the small amount of salary they receive and they obtain valuable training in teaching as well as in course work. They are a valuable asset to the Graduate School and relieve the teaching staff of much work of minor character, thus leaving the teaching staff free to handle more lecture work and for research. Four additional graduate assistants should be provided for, two for the Summer Quarter and two additional for the other three quarters.

The graduate work of the Department is developing so rapidly that an increasing demand is made on the time of professors concerned with this work. Not only is the time of Professor Herbert Osborn fully occupied with research students, but others have felt the strain of this work when added to their undergraduate teaching. The Head of the Department, especially, has found it necessary to give a great deal of time to the work of counseling and directing graduate students, reading and correcting theses, and attending the preliminary examinations and final oral examinations. Attendance at eight doctor's and five master's examinations, either as a member of the Examining Committee or as a representative of the Graduate Council, was in itself no small matter. With this growth in our graduate work, which shows no signs of diminishing, but rather of increasing, it will be necessary for the Head of the Department to be relieved of more undergraduate teaching.

2. It has previously been recommended that an additional outhouse be constructed for our larger spray machinery and for a

spray laboratory. As time goes on this becomes more and more imperative. A vivarium for the rearing of animals for work in the course in Heredity and for experimental work along this line is most important. Combined with this should be at least one room for apiary equipment. It is useless to attempt to develop the work in beekeeping further as long as everything has to be carried to the third floor of the Botany and Zoology Building. With the construction of such a building, room 55 of the Botany and Zoology Building, which was originally designed for an aquatic laboratory, could be used for an additional laboratory-room for advanced work.

3. It is most important that our large insect collections be better cared for and additional steel cases for their permanent preservation are urgently recommended. With adequate facilities for this care of insect collections it will be possible to preserve properly not only what we have, but to offer opportunities for the proper housing of insect collections that may be donated to the University. Under present conditions, one would hesitate to leave a valuable collection permanently in our hands.

4. The phase of our work which is probably most susceptible to rapid development and which will redound most to the credit of the University, is the Lake Laboratory. For the past four years, since the old site at Cedar Point became unsuited and was given up, the Laboratory has been permitted by the State Division of Fish and Game to occupy temporary quarters in the upper story of the Fish Hatchery at Put-in-Bay. The room, which was intended merely for storage purposes, is not equipped nor well suited for a laboratory for more than a very limited number of students. Twenty is about all that can be handled under the circumstances, and this limit has been reached without any attempt on our part to increase the number attending. There can be no provision for permanent equipment nor for carrying on certain kinds of work while conditions remain as they are.

For residence purposes during the six weeks of the season, we have been able thus far to rent an old cottage, which is neither ample in space nor otherwise suited well to our needs, but which we have gladly accepted as the only thing in sight. It is maintained on a pro rata charge to the students and faculty living there. Again we find ourselves limited to the number we now have enrolled, as the house is overfilled with the present number.

The purchase of a suitable lot and the erection of a permanent building for residence and laboratory purposes will permit the work to be extended as it deserves, and will also make it possible to keep

the Laboratory open all summer for teaching and research. Some provision should also be made for the prosecution of research work during the colder months of the year when necessary.

The Lake Laboratory fills a very important place in our advanced and graduate work. With proper facilities and permanent quarters it could be made equally valuable for work in other phases of biology, such as Botany (which is at present given comparatively little attention), Comparative Anatomy, Embryology, Comparative Histology, and Comparative Physiology. The addition of work along these lines would greatly increase the usefulness of the Laboratory as an institution for advanced teaching and research.

Respectfully submitted,

RAYMOND C. OSBURN, *Head of Department.*

REPORT OF THE COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report from the College of Arts, Philosophy, and Science for the year ending June 30, 1922.

At the outset I wish to acknowledge the generous and patient support accorded me by the faculty of the College during this year of introduction to a new and difficult work, complicated as it has been by the problems arising out of the transition to the Four-quarter schedule. In particular I wish to express my gratitude for the cordial and continued assistance and the unfailing generosity of Professor J. V. Denney in acquainting me with the numerous details of the office he held so long with distinguished ability.

THE FACULTY

During the year the faculty of the College has sustained no notable losses through resignation or death; nor have there been any notable accessions, although the pressure of increasing numbers has emphasized needs that will have to be met in the near future. It is also a matter of sincere congratulation that little serious illness has interfered with the activity of the Faculty.

ENROLLMENT

The College enrolled 3368 students of whom 125 were also enrolled in the College of Education and 369 were in the Summer Session of 1921. Of the 2972 in residence during the year (exclusive of the Summer Session), 1937 were men and 1035 were women. The attendance during the year and exclusive of the Summer Session exceeded that of last year by 191, but the summer attendance was 396 as compared with 422 last year. This loss is accounted for by the fact that no instruction was offered in many elementary courses, and students went elsewhere to secure this work. There were 214 voluntary withdrawals during the year—158 during the first semester and 56 during the second. To these figures should be added a considerable number each semester who simply stopped work without the formality of withdrawing. The reasons given were as follows:

	Illness	Lack of funds	Poor start	Enter business	Home cond.	Marriage	Transfer	Eyes	Miscellaneous
1st	67	33	19	6	9	4	7	2	11
2nd	32	8	1	4	5		3	1	2

STUDENT SCHOLARSHIP

Delinquent Students

The following table gives a survey of delinquency in scholarship during the year:

	Nov. 1921	Dec. 1921	Feb. 1922	April 1922	June 1922
Put on probation.....	319	0	212	106	137
Delinquent, but not put on probation	968		785	636	619
Out under rules.....	53	26	161	36	84
Total unsatisfactory.....	1285		1169	773	840
Gross enrollment.....	2878		2878	2559	2559
Percent of gross enrollment unsatisfactory	44.2		40.6	30.2	32.8
Percent of gross enrollment dismissed	1.8	0.9	5.5	1.4	3.2

Gross enrollment for the year, 2972. Total dismissed during the year, 360. Percent of gross enrollment for the year dismissed, 12.1.

In reaching the actions indicated in the table, a close watch was kept on the following classes of students: (1) Those reinstated after having been dismissed from the College; (2) those delinquent in one-third of the work of the preceding semester (on probation); (3) freshmen entering with a poor record in the high school; (4) students constituting the lowest 5 percent in the rating secured by the intelligence tests. The Entrance Board and the Department of Psychology co-operated most helpfully in supplying the information indicated in 3 and 4. It should be added that the figures given are inexact in that some very poor students voluntarily withdrew to save themselves from being dismissed, and that some whose standing may have been satisfactory simply stopped work with no explanation and were marked as having failed. These two classes probably balance each other very closely.

RECORD OF REINSTATED STUDENTS 1921-1922

First Semester

Of 68 students who had failed in previous semesters and were reinstated for the first semester 1921-1922, 14 failed to register. Of the 54 who did register, three withdrew during the semester, and one transferred to another college. Of the 50 who continued in the College of Arts, 13 were dismissed in November and December and seven more in February (total 20). At the close of the semester, 18 of the 30 who finished passed in all subjects, seven were again put on probation, and five incurred minor delinquencies. Of those who continued on into the second semester, none were dismissed in April, but three more were dismissed in June, making the total dismissals out of this group 23 for the year.

Second Semester

Of 71 students who had failed out in previous semesters, and were reinstated for the second semester 1921-1922, four failed to register. Of the 67 who did register, three withdrew during the semester, and four transferred to other colleges. Of the 60 who continued in the College of Arts, 10 were dismissed in April and 10 more in June (total 20). At the close of the semester, 17 of the 40 who finished passed in all subjects, two were again put on probation, and 21 incurred minor delinquencies.

CAUSES OF POOR SCHOLARSHIP

That the scholarship of college students here and elsewhere is much below what it should be is universally admitted and has been widely discussed in educational circles. Many causes more or less general in their action have been suggested, and there are special local reasons as well. Boys and girls go to college much more as a matter of course and with much less personal effort than was formerly true; high-school courses are much less directed toward meeting college requirements than they were; an increasing number endeavor to earn their way through college and attempt too much work; distractions of all kinds multiply each year, some connected with college life and others incidental to life in a large city; a thousand interests press upon the attention of the student and so-called college activities constitute the major interest of not a few; college classes are crowded beyond the possibility of effective teaching; elementary courses are in the hands of young and inexperienced teachers; even experienced teachers become indifferent and uninspiring.

One local factor that is of vital importance is found in the fact, commented upon in this report last year, that the Ohio Statutes require the College of Arts to admit all graduates from a first-grade high school. At the same time the program of the high school is becoming less and less standardized so that many of its graduates have no foundation at all adequate for college training. Colleges other than State institutions do not accept these ill-prepared students. Moreover, most of the better colleges of the State now refuse to admit any student who did not graduate in the upper two-thirds of his class. We are getting much more than our share of the ill-prepared and deficient students. The University should prepare a card of advice to be placed in each high school of the state describing a proper course for admission to college. It should also press for a change in the statutes that will authorize the University

Examiner to reject all candidates for admission whose certificates are unsatisfactory either in character or scholarship.

THE CURE FOR POOR SCHOLARSHIP

No one has suggested an adequate cure for such a state as exists. Evidently student sentiment must be aroused and enlisted in the effort, largely by the enthusiasm of the faculty for scholarship and their ability to inspire the student with a sense of its value. The University itself must place much less emphasis upon the student's contribution to the many distracting episodes of college life, particularly those that interrupt study for a consecutive period of time either by involving absence, or by intensive attention while here. As long as such enterprises are actively promoted by some university officials and frowned upon by others, little progress can be made. In a minor way some improvement may be effected. A system of adequate rewards may be developed for the able and earnest student; more effort can be directed to assembling special groups of students for discussion and inspiration; it would be of great profit to provide more frequent inspiring and instructive addresses by visitors of authority, or by members from our own faculty.

In a purely negative way something has been accomplished in detecting the indifferent or incompetent student and expediting his departure from the University at an early stage in his career. The policy has been pursued of refusing to readmit any student who has been dismissed, unless he can present tangible evidence of a change of attitude towards his work. In the absence of other evidence, he has been assigned a list of four or five appropriate books to read and upon which he must be examined before his petition for readmission will be considered. Probably not more than one-fourth of those dismissed have been willing to submit to this test of their scholarly sincerity.

ADMINISTRATIVE PROBLEMS WITH STUDENTS

Any real effort to deal with the problem of student scholarship and the delinquent student will at once involve additional clerical help in the dean's office. An undue amount of the dean's time is absorbed in doing merely clerical work, despite the very excellent assistance of the Secretary of the College and the stenographer. There is pressing need for a statistical clerk to have charge of collecting the data upon which much of the action of the faculty of the College should rest. This was urgently presented in the report of last year, and the need becomes more and more acute as time

goes on. The numbers in the College have grown beyond any possibility of continuing the methods that were formerly adequate, and we must have relief if we are to have efficiency. We do not know the reliance to be placed upon the intelligence tests; the effect of suspending or dismissing the unsatisfactory student; the extent of failure caused by overindulgence in activities of various sorts; the percentage of reinstated students that ultimately succeed; the desirable or undesirable results of our present elective system; the relation of outside work for self-support to the load a student may safely undertake; or any one of a hundred similar questions. The Four-quarter Plan of work will involve a more frequent going over of student records, increasing the work of the office force, and provision must be made for vacations while the session is in progress.

A second serious difficulty lies in the complete absence of any recognized method of communicating with students save by individual letters. When hundreds of students are failing to comply with necessary rules, or could be saved much annoyance by an announcement, there is no way to reach them as a body. The University should provide an official student bulletin posted each day in all buildings and about the grounds; or it should require all students to pay a fee covering the subscription to the daily college paper, granting a subsidy to the paper, if necessary, to keep the fee nominal in amount. The paper should then have a department of official notices for reading which all students are held responsible.

In the third place, as was mentioned last year, the Dean should have a more general jurisdiction over the work of his students, including a much more complete record of their grades to date, and should regulate their participation in college activities when these are found to be interfering with their scholastic attainments.

TRANSITION TO THE FOUR-QUARTER SCHEDULE

During the year the attention of the administration has been very largely absorbed by plans for the transition to the Four-quarter schedule. The faculty of the College has co-operated very loyally to make these plans successful, and a reasonably satisfactory program has been adopted for the year ahead. In view of the very restricted funds available for effecting such an expanded program (the budget increase allotted to the College of Arts for the year being just the same as has been assigned for the work of the College in the Summer Session of last summer), it is clear that the plan can be only partially successful next year. The instruction in the summer quarter is now to be paid for at full salary rates and is increased in time from eight to 12 weeks. It was deemed neces-

sary to provide a well-balanced program of work for the Summer Quarter, which involved increasing the offerings within some departments and providing for departments that have not hitherto offered summer work.

With every economy that could be practiced, this has necessitated cutting down the work of the regular three quarters of the session. And since a Four-quarter program involves frequent repetitions of elementary courses, it has been necessary to diminish the number of sections beginning work in the Fall Quarter. Last fall, with more sections available, department after department reached its limits of enrollment long before registration day was over, and it became extremely difficult to make a schedule for a freshman. There can be no doubt that a number of freshmen failed in their work because they were forced to take work ill-suited to their taste. Next fall conditions may be much worse, and unless some relief can be found, a good many freshmen will have to be denied admission.

No provision could be made for lectures during the Summer Quarter, and for only one visiting instructor. This will be a disappointment to teachers who come here for summer work. Very little provision could be made for intensified courses for the half-session, and this will be an even greater disappointment; for it is evident that few teachers come here for a 12-week period, and many extra courses will have to be provided for the half-session, if we are to attract the teachers of the state.

All such problems, as well as many others, will be worked out as we gain the experience of the first year under the new plan, provided an adequate budget can be secured. On the present allowance of funds, we shall be severely limited in our endeavor. It should be added that no provision has been made for any vacation period for the executive staff of the College. Since the work is now extended throughout the year, a larger staff is imperative.

THE LIBRARY

In these reports during recent years, the acute needs of the Library have been emphasized very frequently. This need is most severely felt by the College of Liberal Arts, since it must depend very largely upon the Library as its inspiration, its source for materials, and its laboratory. It becomes increasingly difficult to hold scholarly men in our faculty or to secure them from elsewhere when it is known that little can be guaranteed in the way of library extension. In recent years many new departments of work have been added to the University with no corresponding increase in the library appropriation, and department allowances, always very

small, have steadily diminished. This urgent need will be presented to the Board from another source, and I shall not enlarge upon it. Unless the Board can find means to increase the Library appropriation very greatly, I recommend that departments be authorized to actively solicit funds from public-spirited donors, in order that we may not fall still more below the state of the more favored institutions with which we are naturally associated.

THE BUILDING PROGRAM

During the past biennial the University has been fortunate in securing a considerable appropriation for building purposes. None of this fund has been devoted to buildings that will benefit the work administered by the College of Arts save as these may result in vacating a portion of University Hall. If the University really values the work of the College as a basis for technical and professional courses, as vital to the general educational tone of the University, and to the success of the Graduate School, it is imperative that better housing conditions shall be provided. The work in all the cultural studies, such as English, the foreign languages, history, political science, and philosophy, is so scattered over the campus that there is no entity to the College as such. Classroom and office assignments change so frequently, and are so inadequate and dispersed, that no use can be made of educational equipment appropriate to these departments. Department libraries are impossible; seminars are conducted under most adverse conditions. Offices designed for one or two men house six or seven. The English Department carries on its work in 10 different buildings, and its instructors endeavor to confer with some 3000 students about their themes in two rooms, and with no privacy for either instructor or student.

After much time spent in deliberation and careful estimation for the approaching two-year period, the Faculty has expressed the earnest opinion that University Hall should be refitted in its interior for the use of the Departments of History, Political Science, Mathematics, and Philosophy, and that a new building should be provided for the several Departments of Language adapted to their peculiar needs. This should be located as conveniently as possible both to University Hall and to the Library.

RELATION TO OTHER COLLEGES

In assuming the duties of Dean of the College of Arts, Philosophy, and Science, I find myself confronted by a situation that seems to me to call for attention. It is vital to the best interests of this

College that all of those courses that are ordinarily offered in a College of Liberal Arts should be in some wise responsive to the ideals of the College itself. Yet a large fraction of such courses are supervised by other deans, and no way is provided whereby the interests of the College of Arts can be secured. For example, the dean of the College has no voice in the administration of any department of science save geology, nor in mathematics, economics, sociology, psychology, or physical education. Since all of these subjects are a part of the Arts College program, and since the administration of all this work by specialized colleges creates a real danger that these departments may lose sight of broad training in the service of specialized proficiency, some way should be provided whereby the interest of the College of Arts in such a large fraction of its normal work may be guarded. This problem is not peculiar to the College of Arts, since the other deans face the same problem, though to a much less degree. The difficulty is inherent in an organization of work that is not well adapted to the present size and character of the University. I believe that attention has been directed to this deficiency by those experts who have in recent years made a study of the University.

BUDGET MAKING

Closely related to the problem just stated is the problem of making the budget for the year. The unsatisfactory features of our present procedure were pointed out very clearly in the report of last year, and I wish to emphasize what Dean Denney has there so clearly presented.

STUDENT LOAN FUND

A relatively small but very deserving group of earnest and able students is each year forced out of the University by lack of funds. It is a real tragedy to see a student struggle bravely along only to lose out a few weeks before the examinations that would give him credit for a semester's work. The University has several loan funds, but these are wholly inadequate to the needs, and are exhausted early in the session. It seems probable that these funds could be largely augmented, and individual scholarships established, if the Board were to authorize some agency within the University to study this need, advertise the facts in the case, and actively solicit the interest of persons interested in the struggles of worthy students.

CONCLUSION

In reviewing the work of the year I am very conscious of the serious risk the College of Arts incurred in entrusting its guidance

to a new dean of little experience at a most critical year of its history. I am very grateful for the strong support accorded me by the President and by my faculty amid the many problems presented by reason of a profound change in our academic organization and a very limited budget. In view of this support, I look forward to a second year as one of greater accomplishments, with more stress placed upon the scholarship of the student body and of the faculty as well. I bespeak the support of the Board of Trustees in a better provision for the physical needs of this great unit of the University; in its equipment in Library and department facilities; and in strengthening and enlarging its faculty to meet the demands of increasing numbers, and for broadening and deepening the more advanced work fundamental to the Graduate School and supplementary to the work offered by other Ohio colleges.

Respectfully submitted,

W. E. HENDERSON,

Dean of the College of Arts, Philosophy, and Science.

REPORT OF THE DEAN OF THE COLLEGE OF COMMERCE AND JOURNALISM

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Commerce and Journalism for the year ending June 30, 1922.

The College has grown rapidly since its organization in 1916 as the following data will show:

REGISTRATION

1916-1917.....	90
1917-1918.....	101
1918-1919.....	118
1919-1920.....	318
1920-1921.....	367
1921-1922.....	530

On November 1, 1920, there was registered in the College 304 students while on November 1, 1921, there was registered 475 students, an increase in registration of over 56 percent. The registration in the College in the summer of 1921 was 70, while the registration to date in the summer of 1922 is 132.

The registration in the individual courses in the College exhibits a remarkable growth. The total registration in all the courses in the Department of Economics and Sociology for the last seven years is as follows:

	First Semester	Second Semester
1915-1916.....	1413	1441
1916-1917.....	1749	1727
1917-1918.....	1097	854
1918-1919.....	1155	1507
1919-1920.....	3009	3000
1920-1921.....	4500	4583
1921-1922.....	5358	5048

The increase in registration in advanced courses has been much greater than in the elementary courses.

REORGANIZATION OF THE DEPARTMENT OF ECONOMICS AND SOCIOLOGY

The conspicuous change which has taken place in the development of the College within the last year was the reorganization of the Department of Economics and Sociology by the Board of Trustees on February 7, 1922, into five departments. The names of these departments with the heads elected follows:

Department of Sociology—J. E. Hagerty

Department of Economics—M. B. Hammond

Department of Business Organization—C. O. Ruggles

Department of Economic and Social Geography—C. C. Huntington

Department of Accounting—G. W. Eckelberry

When the Dean recommended the reorganization of the Department he pointed out that the Department of Economics and Sociology had the same form of organization with a registration of over 4500 as it had 20 years before when it had a registration of 150. The work of the Department logically divided itself into the above named groups or departments, each of which with one exception had its fundamental course. The work of the Department had also become very complex and it was impossible for the Head of the Department who was also Dean of the College, to give the special attention to each line of work which its importance deserved. With the organization of each department under a head devoted to the work represented by his department, it is believed that the different lines of work will experience a development which would have been impossible under a single headship when the Head of the department had many other administrative duties.

It will be observed from the registration of each of these departments at the close of the first semester 1921-1922 that the new departments are not small but relatively large departments.

Registration

Economics.....	1557
Sociology.....	948
Accounting.....	778
Economic and Social Geography.....	781
Business Organization.....	1294
<hr/>	
Total.....	5358

Before the new departments were organized the President requested the Head of the Department of Economics and Sociology to call a meeting of the members of the Department for the purpose of determining upon and recommending a form of organization which should govern the new departments when organized. A meeting was called, a committee was appointed to recommend an organization, and after several meetings of the Department the following statement and resolutions were adopted, which are to govern the members of each department and the new departments organized:

Recognizing the desirability of continuing the existing democratic and co-operative spirit (in the departments to be organized out of the Department of Economics and Sociology), the following principles are adopted as a working basis for intra- and interdepartmental administration. It is to be understood that in adopting this instrument, the Faculty of the College of Com-

merce and Journalism has no intention of limiting in any way the administrative functions of the President and the Dean of the College, but that it wishes merely to provide for intracollege relations and policies:

1. Members of the Faculty shall be perfectly free to raise questions of promotion and pay with the Dean.

2. In the interests of continuity of programs and the most intelligent leadership, the heads of the departments should have indefinite tenure of their positions.

3. In case of vacancies of heads of departments, recommendations may be made by the members of the Department to the Dean of the College.

4. New appointments should be considered by the members of the departments vitally interested, in so far as such a procedure is practicable.

5. Questions of courses of study should be considered first by the departments in which the course is offered and second by a standing committee of instruction in which all departments are equally represented.

6. The responsibility for executing and administering department policy shall rest upon the head of the Department.

7. The department head shall be expected to assume leadership in developing departmental policy.

8. No policy shall be adopted without consideration of the opinions of all persons concerned. Whenever a recommendation is made to the Dean, it shall carry with it a statement as to the extent to which it represents the views of the department, all members of the department being equally free to present their views to the Dean.

9. The membership of the departments shall consist of professors, assistant professors, instructors, and such other members of the staff as may be proposed by the department and accepted by the College.

We feel that the College of Commerce and Journalism has completed a fairly satisfactory year in spite of its handicaps in housing, in equipment, and in inadequate funds to make provision for its teaching staff. The Commercial Library, the laboratories for Accounting and Statistics, the offices for most of the teachers, and several of the classrooms of the College are in basement rooms which are dark, badly ventilated, and wholly unsuited for laboratories, classrooms, offices, or library purposes. When the new Commerce Building is completed the handicaps of inadequate housing and equipment will be removed and it is sincerely hoped that the Commerce Building will be completed ready to be used by the Fall Quarter of 1923.

A rapidly growing College needs an increase of its budget for the employment of teachers commensurate with its growth. Where the increase in registration exceeds the increase in the budget students must either be taught in very large classes or else be taught by inadequately trained men. Whichever course is pursued a college cannot operate with great effectiveness. The increased registration in the advanced courses in the last three years has given us much concern. We must have a large increase in our

budget for the employment of teachers or the teaching of the College must deteriorate.

LIBRARY APPROPRIATIONS

The Department Library of Economics and Sociology is maintained from interest on an endowment fund, the gift of Mrs. Frederick C. Clark in honor of her husband. This interest which amounts to \$120 a year is used as it was intended—to purchase books in Economics. This library is in need of a much larger expenditure of money and larger annual appropriations. Provision is being made in the new Commerce Building for a library which will hold 30,000 volumes and a reading-room which will accommodate 125 persons. A request is made in the biennium budget for an appropriation from the Legislature of \$30,000 for the Commerce Library. When Colleges of Commerce were established in other state universities the legislatures of the states usually made ample provision for libraries for them. This is also in line with precedents already established for the Law Library and the Medical College Library of the University.

The share of the library appropriation allotted to the College of Commerce and Journalism has always been meager, but the last two years it has been adequate to secure only a small percentage of the new literature represented by the department of the College. In 1920-1921 and 1921-1922 the allotment has been \$400 and from this sum the College must carry the subscriptions to most of its magazine literature and purchase its books. For 1922-1923 the allotment to the College from the library appropriations has been increased somewhat, but a statement of its distribution to the departments of the College will show how badly the College is handicapped from its inability to keep up with its new literature.

Accounting.....	\$ 50.00
Business Organization.....	150.00
Economics.....	100.00
Economic and Social Geography...	50.00
Journalism.....	50.00
Sociology.....	125.00
<hr/>	
Total.....	\$525.00

Subscriptions to many of the more important magazines in Commerce must still be carried from the above appropriations. For several years a tax has been imposed on students in several courses to buy books for the Library which were necessary to the successful teaching of the courses. This policy should be abandoned as students should not be required to purchase books for the Library,

and a more adequate appropriation for books is necessary to the abandonment of the policy.

DEPARTMENT OF JOURNALISM

DEAN JAMES E. HAGERTY—The Department of Journalism submits the following report for the year 1921-1922:

In the first semester 306 students were enrolled in the various courses, and in the second semester 296. Making allowance for those who took more than one course nearly 250 individuals were enrolled during the year, of whom about one-third were women. This is about 20 percent increase over the preceding year.

In response to demand, a new course, Agricultural Writing, was offered at the beginning of the year, and 38 students were enrolled during the two semesters, a gratifying number in view of the fact that the course was not offered in time to make proper announcement of it. This work will be continued and enlarged the coming year.

Eight students were graduated in June, 1922, with the degree of Bachelor of Science in Journalism.

The Lantern, the University daily newspaper, used as the laboratory of the students in Journalism, was enlarged during the year to provide for the increased registration. The plan of using the student to supplement classroom work, adopted when the Department was organized eight years ago, has proved eminently practical, and has met with the approval of the newspaper men of the State. Publishers generally are deeply interested in college training for Journalism, and are looking to the University more and more for their reporters and editors. In fact we have more requests for men and women than we can take care of. During the summer we place a large number of students in temporary positions.

The Ohio Newspaper, edited and published by the Department for the publishers of the State, as a monthly magazine has thoroughly proved its worth as a medium of newspaper information, and has brought the Department into close touch with the daily and weekly press of Ohio.

In the early part of the year the Department announced a contest for the high-school newspapers of the State, dividing them into five classes, with a diploma of merit for each. Nearly 50 schools were entered, with certain prospects for a large number in future competitions. Many of our students come with experience on high-school publications, and the contests will have the effect of interesting pupils not only in the Department of Journalism, but in the University as a whole. In this connection it should be stated that

we are receiving in increasing numbers students from other colleges who come here to specialize in Journalism.

Following the unbroken custom of eight years a selected staff of students took charge of the editorial department of the Columbus Citizen on May 13, and put out a most creditable newspaper.

A bulletin containing a collection of journalistic codes of ethics of several states and newspapers was issued in February, and immediately there was a large demand for it from all parts of the country.

The new building to house the Department of Journalism and University Press will be occupied during the next year, affording relief from present crowded conditions as to Department offices, Lantern rooms, and printing plant. The University Press is a rapidly growing part of the University. In addition to the routine printing of the University it publishes magazines, theses, dissertations, and the three-volume history of the University. A bindery was installed in the spring semester, chiefly for Library work. The Press has published a number of valuable contributions to letters and science, for which there is considerable demand. The need is growing for some sort of a selling organization.

The Robert F. Wolfe journalism medal for the best all-around work and thesis was awarded in June to Philip W. Porter, editor of The Lantern.

Very respectfully,

J. S. MYERS.

STUDENT ORGANIZATIONS WITHIN THE COLLEGE

At the present time there are the following student organizations within the College: The Commercial Club, the Sociology Club, the Sigma Delta Chi and the Theta Sigma Phi, both National Honorary Professional Journalistic Societies, and the Alpha Kappa Psi, Delta Sigma Pi, and Beta Gamma Sigma, National Commercial Fraternities.

The Alpha Kappa Psi has been the one Commercial Fraternity in the College for a number of years. The Delta Sigma Pi was organized within the year. This fraternity offers a key each year in every university where it has a chapter, to the best student in Commerce in the graduating class.

The Beta Gamma Sigma is an honorary society, membership in which is limited to the upper 20 percent in any graduating class, but not more than 10 percent can be elected to membership in any year. A chapter of this society was organized in the College in May, 1922.

CONFERENCE FOR PROBATION OFFICERS AND
JUVENILE COURT JUDGES

This conference was held at the University from July 5th to the 15th by the Department of Sociology with the co-operation of the Ohio Institute of Public Efficiency. There were in attendance at the conference over 60 people. Of these eight were judges, 33 were probation officers, and over 20 others were interested in probation and juvenile court work, but were not yet officially probation officers or judges.

The following were the lecturers at the conference;

Judge Charles W. Hoffman, Court of Domestic Relations, Cincinnati, Ohio.

Mr. A. C. Crouse, Chief Probation Officer, Court of Domestic Relations, Cincinnati, Ohio.

Judge George S. Adams, Juvenile Court, Cleveland, Ohio.

Mr. Joel Hunter, Superintendent United Charities, Chicago, Illinois.
(Many years, Chief Probation Officer, Children's Court, Chicago.)

Mr. Joseph P. Murphy, Chief Probation Officer, Erie County, Buffalo, N. Y.

Dr. C. C. Carstens, President, National Child Welfare League of America, New York City.

Mr. Charles L. Chute, Executive Secretary of the Juvenile Protective League of America, New York City.

Dr. H. H. Goddard, Director Bureau of Juvenile Research, Columbus, Ohio.

Miss Lucia Johnson, Ohio Institute of Public Efficiency, Columbus, Ohio.

Miss Katherine Kennedy, Ohio Institute of Public Efficiency, Columbus, Ohio.

J. E. Hagerty, Ohio State University, Columbus, Ohio.

OHIO SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS

The College has had the pleasure of entertaining the Ohio Society of Certified Public Accountants on the campus in May and October, 1921, and June, 1922. These conventions were instrumental in bringing together the faculty and students of the College and the practicing accountants of the State. The Society has indicated its intention to continue these meetings. Some of the officers of the Society have asked the College to co-operate with them in their plans to conduct an Institute of Accounting on the campus during the Summer Session. We feel that this should receive the support of the University, and it is our hope that the College will find it possible to lend its co-operation.

CLASS IN MERCANTILE CREDITS

The Columbus Institute on Mercantile Credits was conducted in the winter of 1921-1922 under the joint auspices of the College of Commerce and Journalism and the Columbus Association of Credit Men. Mr. T. N. Beckman of the Department of Business Organization was the teacher of the course and Dean J. E. Hagerty was director of the Institute. The students who took the course had at

least completed a high-school course and all of them were connected with the offices of credit men. The best co-operation prevailed between the credit men of the city and the teaching staff of the College.

CLASS IN BANKING

The American Institute of Banking, which is really the educational department of the American Bankers' Association, has established chapters in all the leading cities of the United States. These chapters have for their primary purpose the establishment of classes in banking which are to be attended by the employees of the banks of the particular city in which the chapter is located.

The chapter of the American Institute of Banking at Columbus has been in existence for some years. Two times the chapter has organized classes for bank employees, but neither attempt was successful. In October, 1921, the chapter decided again to organize a class and conducted a campaign for membership which resulted in enrolling 200 bank employees as members.

At this point Assistant Professor Dice of the Department of Business Organization was invited to organize the class in banking and 167 were enrolled. On account of its size the class was divided in two sections, each section meeting one hour a week from five to six o'clock. The class continued until the last week in May when an examination was given to 68 people. Those passing the course received a certificate from the American Institute of Banking.

Throughout the year in conducting the course Professor Dice had the best of co-operation from the officers and council of the American Institute of Banking and of the officials of the banks of Columbus. The interest in an educational program for the employees of banks by both the employees and the officials of banks is so strong that every effort should be made by the College of Commerce and Journalism in the future to co-operate with the local chapter of the American Institute of Bankers and the bankers of Columbus in developing for them a strong educational program.

THE FUTURE PROGRAM OF THE COLLEGE

A Four-year College

The College of Commerce and Journalism was organized as a two years' College based on two years' work in some other college. A minimum of two courses extending through the year is required in each course in the College and some of the courses are based upon more than this amount of prerequisite work. In some instances

some of this prerequisite work may be taken the first year while the student is in college.

While it was specifically stated when the College was organized that students may be admitted after having taken two years' work in any college on the campus or two years' work in any college with standing comparable to that of The Ohio State University, a great majority of the students who enter the College take their first two years in the Liberal Arts College of the University or in some other similar college. Moreover most of the students who take their first two years in the Liberal Arts College register in this College with the full expectation of transferring to the College of Commerce and Journalism at the beginning of their junior year. Most of the prerequisite work to the College of Commerce and Journalism although offered in the College of Liberal Arts is in departments under the administration of the College of Commerce and Journalism, such as the fundamental courses in Economics, Sociology, Journalism, Accounting, and Economic Geography.

The following are some of the reasons for organizing a four years' College of Commerce and Journalism.

1. As a large majority of students entering the College of Commerce and Journalism have their first two years in the College of Liberal Arts these years are taken in a college where the number of first- and second-year students is very large, last year exceeding 2100 and consequently it is possible for them to receive little or no attention from the officials of the Liberal Arts College. Many students could complete their work in the College much more satisfactorily than they now complete it, if the first two years' work had been arranged differently and if they had been advised with reference to the selection of their subjects at the right time.

2. In the first two years' work of a student he often needs advice and council. This can be given better by the officials of his college who understand the program and plans of his college than by the officials of some other college even if the officials of the latter college had time to give personal attention to students.

3. Every technical or professional college has technical or professional standards which it desires to inculcate while the student is receiving his training. Two years is too brief a time for the Faculty to establish an *Esprit De Corps* among its students and to develop standards and a professional interest which are most essential in professional education.

4. The burden on the Registrar's office in making transfers will be greatly reduced if students are permitted on entering the University to register in the college in which they will graduate

rather than register in some other college for two years and then transfer to the college in which they will graduate.

5. The Colleges of Engineering, Agriculture, and Education are four-year colleges although much of the first two years' work of these colleges is nontechnical in character and is taught in departments not administratively under the control of the college. No reasons can be offered for four-year courses in these colleges which cannot be offered with equal validity for the College of Commerce and Journalism. Aside from this there are many reasons why the College of Commerce and Journalism should have the same organization as the above named colleges.

6. The Commerce and Journalism students have a strong preference for entering the college where they expect to graduate when they enter the University. Because they cannot do so at Ohio State University many go to the Wharton School of the University of Pennsylvania or to the University of Illinois and other colleges having four-year courses instead of coming to the Ohio State University. The organization of a four-year course does not mean the development of the College along more technical lines than at present because the present foundation courses may not only be retained but even extended.

Change of Name of College

After a thorough discussion of the matter at two meetings the Faculty of the College of Commerce and Journalism unanimously voted to recommend that the name of the College be changed to College of Commerce, Journalism, and Social Administration.

As early as 1910 a bulletin issued by the Department of Economics and Sociology announced courses for the training of social workers. The curricula then offered was simply an expansion of courses previously offered in Applied Sociology of interest to those desiring to become professional social workers. This announcement of 1910 contains the following:

The State of Ohio has thousands of paid and volunteer social workers, most of whom are untrained for their work. If it is the duty of the State University to train its students for efficient citizenship, it should offer facilities for the training of professional and volunteer social workers. The new ideas of philanthropy, if put in practice, would reduce the number of dependents and criminals, and make more efficient the State and county institutions and the private charities.

Opportunities are afforded to do practical settlement work, charity investigation work in connection with the Associated Charities, and work in connection with the Juvenile Court. The studiees in this group are arranged to combine practical work with the theoretical work so that students upon

leaving the University may take positions of responsibility in settlement, charity, and general philanthropic work.

At this time, 1910, we were alone among the American universities and colleges offering training for Social Workers. At this time there were but four private schools, one in New York, one in Boston, one in Chicago, and one in St. Louis, giving training to Social Workers. Now, according to an investigation made under the auspices of the Russell Sage Foundation, there are 44 schools and colleges offering training for social workers.

Since 1910 the courses in Applied Sociology have been gradually expanded and when the College was organized in 1916 the training of social workers became an organic part of the College. In 1921, 14 students graduated in Social Service and in 1922, 15 students graduated in Social Service. This coming year we are offering a graduate course on Social Administration for the training of executives in social work and those who complete the course will receive the Master's degree in Social Administration. Students who have received their training in social work at Ohio State University are now holding responsible positions in various parts of the country.

The proposed title of the College would give recognition to an increasing number of students who are graduating in Social Administration and who have difficulty now in explaining why they are completing their course in a College of Commerce and Journalism. The courses in the private schools and colleges in social work are almost invariably designated by an appropriate title and the proposed change of title would place the Ohio State University in line with the best practice of the present time.

The objections to lengthening the title are more than offset by the fact that the proposed title states specifically what is being offered in the College.

BUREAU OF RESEARCH

Early in 1918 the Board of Trustees approved a Bureau of Business Research and a Bureau of Social Research. At that time and since it seemed impossible for the Board to make provision for financing these bureaus and for housing them. The plans for the new Commerce Building make suitable facilities for housing them and it is sincerely hoped that adequate financial provision will be made for carrying out the work of these bureaus. A request is made in the biennium budget for \$30,400 for these bureaus in 1923-1924 and \$35,400 for them in 1924-1925.

The Bureau of Business Research should collect and classify for courses of study material to be found in government documents,

reports, and statements of business concerns, thus enriching the study of finance, taxation, industrial management, marketing, salesmanship, advertising, insurance, labor, etc. Valuable materials in business and other fields are practically worthless because of the lack of proper facilities for making them available for the use of students. The Bureau of Business Research should conduct investigations on the methods and practices of business organizations, make business surveys and furnish an information service to the business men of Ohio comparable to that which is furnished by the Alexander Hamilton Institute, and for which it receives large sums of money. This Bureau should organize and conduct conferences and business institutes on such subjects as retail merchandising, salesmanship, advertising, taxation, insurance, and industrial management and in every way promote the standards and efficiency of business.

The Bureau of Social Research should collect and tabulate for courses in Applied Sociology material from the reports of public and private philanthropic, penal, and other social agencies. It should make social surveys of communities, assist communities in improving the organization of their social agencies, and organize conferences and institutes to promote the standards of welfare agencies in the State.

It is believed that the co-operation with the business and social welfare interests which the programs of the bureaus contemplates will greatly facilitate the work of the College by a scientific study of its own field, by furnishing excellent opportunities for field work and by securing the co-operation from the business world which will secure the most effective work of the College.

Very respectfully,

J. E. HAGERTY.

REPORT OF THE DEAN OF THE COLLEGE OF DENTISTRY

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report from the College of Dentistry for the year ending June 30, 1922.

We have just closed our first year in which we are requiring one year of work in a College of Liberal Arts and Science, a so-called preidental year of college, in order to enter the freshman class of the College of Dentistry. As last year was the commencement of such a change the present freshman class was of necessity a very small one, there being 14 registered. It is estimated that somewhere in the neighborhood of 45 enrolled as preidental students in the College of Liberal Arts, Philosophy, and Science with the ultimate desire of entering the College of Dentistry. With a fair number of students in the other colleges in the state with the same end in view we will have in all probability a fair sized freshman class in dentistry next fall. There were 12 dental colleges throughout the country that made this change last year; the rest of them will be pursuing the same course probably not later than the fall of 1925.

There is a strong tendency on the part of the public at large as well as the dental profession throughout the state to show an increased interest in the College of Dentistry in Ohio State University. This may mean in the next year or two a heavy enrollment which under the present regime of instruction and equipment as well as housing will be embarrassing unless the College of Dentistry is assured of proper care in the above three items.

During the session there have been no withdrawals from our list of instructors of a dental nature, and there has been one addition, Dr. Webster M. Baker, as instructor in the Department of Prosthetic Dentistry. With a continual advance in the various specialized lines of dentistry we are beginning to realize that it is necessary as soon as possible to increase the personnel of our dental instructors. Both the divisions of operative dentistry and of prosthetic dentistry, in the near future, should receive more detailed instruction in technical procedures. A division of Oral Surgery, embracing X-ray work, anesthesia, extraction, and surgical procedures involving the jaws must, in the near future, be increased in service. It may be that this division should be separated and made a Department in the College of Dentistry. With the very much in evidence publicity concerning foci of infection found in and

about the mouth and its close relationship of general systemic conditions of the entire body, the position occupied by dental pathology and a small amount of work which should materially increase in the near future in operative dentistry should receive increased attention.

At the beginning of the first semester the student enrollment was as follows:

FIRST SEMESTER

Freshmen	13	Juniors	66
Sophomores	70	Seniors	19

SECOND SEMESTER

Freshmen	14	Juniors	65
Sophomores	73	Seniors	18

We had 10 withdrawals, one transfer to the College of Arts the second semester and three the first semester, three re-entered at the beginning of the second semester.

FIRST SEMESTER

Probation	15	Membership ceased.....	9
-----------------	----	------------------------	---

SECOND SEMESTER

Probation	16	Membership ceased.....	2
-----------------	----	------------------------	---

During the year just closed there have been nine students supported by the United States Veteran Bureau; five of these are registered for the full year work and are assigned to us for work during the Summer Session.

Three members of the senior class were elected into the honorary dental fraternity, Omicron Kappa Upsilon—Robert Henry Gehring, Howard Jacoby Smith, and William Vernon Walton, Jr.

During May, 1921, the Surgeon General of the United States Army requested that a dental unit of the Reserve Officers' Training Corps be established in the Ohio State University. At the June meeting of the faculty of the College of Dentistry in 1921 it was unanimously requested of the President and the Board of Trustees that such a unit be established. During the summer of 1921, the Board of Trustees accepted the establishment of such a unit and at the beginning of the fall session the Surgeon General of the United States Army detailed Major Lester C. Ogg as Professor of Military Science and Tactics, Dental Unit. At that time Major Ogg was Dental Surgeon at the Columbus Barracks. He is one of our graduates, receiving his degree with the class of 1912. For the past year he has served in the capacity of Professor of Military Science and Tactics, Dental Unit, as well as Dental Surgeon, Columbus Barracks. On June 1 of this year he was relieved of his duties at the

Columbus Barracks and during the coming year will be assigned to full service at the College of Dentistry. This summer he has been detailed as an instructor in the summer-course work at the Medical Field Service School at Carlisle Barracks, Pennsylvania. He had enrolled in his course during the past year the following students in each class:

FRESHMEN

5

SOPHOMORES

27

JUNIORS

27

Although the requirement is that a two-year course be pursued in the Reserve Officers' Training Corps before the field work is undertaken, two of our last year junior-class members have been assigned to the work at Carlisle Barracks for training, Braden Nida and Louis G. Hill.

For some years past the Carnegie Foundation received from the various organizations of dentistry a request for the Foundation to undertake a study of dental education. No doubt these requests grew out of the fact that the Foundation had made such a study of medical education. A year ago the Carnegie Foundation notified the Colleges of Dentistry and all others interested that such a survey would be undertaken. This survey they commenced on the fifteenth of November, 1921, and closed it on the fifteenth of May, 1922. Dr. W. J. Geis, Professor of Bio-Chemistry at Columbia University, New York City, was selected as the Carnegie Foundation representative. Dr. Geis associated with himself in this survey the entire membership of the National Dental Educational Council. The National Dental Educational Council is composed of membership from the American Dental Association, National Dental Examiners' Association, and Dental Colleges. Dr. Geis accompanied by Dean Alfred Owre of the University of Minnesota, Dean H. E. Friesell of the University of Pittsburgh, and A. L. Midgley, Secretary of the National Dental Educational Council, made a survey of our Dental College on Thursday, March 9, 1922. Both the reports of the Carnegie Foundation and of the National Dental Educational Council have not yet been rendered.

A report of the work in the Dental Infirmary for the Session 1921-1922 is as follows:

Gold fillings	582	Plate repairs	54
Gold inlays	449	Pyorrhea treated	680
Amalgam fillings	1684	X-Rays	352
Cement fillings	150	Orthodontia	16
Enamel fillings	322	Anesthesia, local	785
Gold crowns	89	Extractions under general	
Gold crown repairs	28	anesthesia	691
Gold and porcelain crowns.....	58	Extractions under local	
Bridges	81	anesthesia	1431

Bridge repairs	27	Fractured jaws	2
Plate vulcanite	214	Prophylaxis	1221

The receipts for this session were \$9100. This is an increase of \$2000 over the income from the clinic for the session of 1920-1921.

The different members of our Dental Faculty, as is usual, have been in attendance at the National, State, and District Dental Society Meetings; with some of them presenting papers, clinics and discussions.

National meeting, Milwaukee, August, 1921—Drs. Semans, Graham, Martindale. Sec'y Committee, Reorganization of American Institute of Dental Teachers, Dr. Semans. Discussion: "Oral Hygiene, Oral Surgery, and Anesthesia," Dr. Martindale.

Ohio State Dental, Columbus, December, 1921—Entire Dental Faculty. Papers, Dean Semans as President. President, Dean Semans; chairman, Clinic Committee, Dr. Snyder. Clinic: "Important Topographical Features," Dr. Hebble. "Orthodontia," Dr. Jones.

City Dental Society, Columbus, Tuesday Evenings—Entire Dental Faculty. President, Dr. F. C. Starr. Papers and Clinics: "Early Causes of Malocclusion," Dr. Jones. "Dental Service in Public Schools from the Standpoint of a Dentist," Dr. Hebble.

American Institute, Montreal, January, 1922—Delegates, Dean Semans, Dr. Hebble. Paper: "Relation of the University to the Dental Curriculum," Dr. Semans. Discussion: "What Should the Dental Student Be Taught so That It Will Be Possible for Him to Prevent Dental Caries," Dr. Hebble.

National Dental Association, Los Angeles, August, 1922—Delegate, Dr. William C. Graham.

Papers and clinics were given at the Renwinkle Dental Society by Drs. F. C. Starr, E. W. Martindale, and D. P. Snyder. Dr. Martindale also was present at the Central Ohio Dental Society Meeting, and that of the W. D. Miller Dental Society during the winter.

At the National Meeting at Milwaukee in August, 1921, Dean Semans acted as Secretary of the Reorganization Committee which held a session at the time of the American Institute of Dental Teachers. The findings of the Committee on Reorganization was reported at the American Institute of Dental Teachers at their annual meeting in Montreal in January, 1922. The Committee's report was accepted. The reorganization of the Institute established in the Institute an inner council composed of a certain number of the leading colleges of the country. The purpose of the Council is to act as an advisory body in all matters pertaining to dental affairs both in the American Institute of Dental Teachers and in the close relationship with dental educational features. The Ohio State University, College of Dentistry, has been placed on the Council as a member for the ensuing three years. A steady progress is noted throughout the country towards the establishment of colleges of dentistry by the larger universities. This is being done largely in universities in the vicinity of dental colleges taking them over as an integral part of such universities. With about 50 colleges in the United States and Canada, there are now but nine who are not members of a university.

REPORT OF THE COLLEGE OF EDUCATION

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report from the College of Education for the year ending June 30, 1922:

GENERAL CONSIDERATIONS

The past quarter of a century has witnessed a greater accumulation of facts and principles upon which the science of education rests than has been the case in any previous half century. The measurement movement in the fields of educational psychology and the statistical, quantitative movement in the more strictly professional aspects of education remove the field of education from apriorism, random speculation, and trial and error methodology into the area of exact science. Without quantitative and qualitative data and a body of fundamental principles no precise formulation of a science of education is possible and no genuine professional status can be confidently hoped for or attained.

The history of the biological and nonbiological sciences shows with unmistakable clearness that the advent of a new science cannot be withstood when it is armed with laws and principles derived from within its unique area of activity. Admission to the temple of science is guarded by ultraconservatives predisposed to challenge any intruder possessed of the temerity to attempt access without the necessary credentials. No title or claim is more relentlessly scrutinized and more severely judged than a new discipline asking for scientific recognition. As the humanities in earlier years barricaded and quarantined their academic tabernacle against the natural sciences, so now do we find the sciences adopting a like attitude before the door of their temple. This is precisely as it should be, for strength, and strength alone, can master an almost impregnable position. Such a position is the *sine qua non* for the development of a friendly adversary's resourcefulness.

The College of Education, through its Bureau of Educational Research and through its emphasis on advanced undergraduate and graduate work in all professional departments of the College, recognizes the importance of further reduction of the field of education to more rigid methods of precision and of bringing scattered, undifferentiated items of its field under laws and principles to the end that those laws and principles may function within a philosophic concept of the educative process as a whole. That the per-

sonality of the teacher, personal initiative, spontaneity, and individual resourcefulness in the conduct of the teaching art may be endangered by the measurement movement is entirely without foundation. Education should measure progress in learning as the engineer measures progress in construction, and there should be no less ethics, humanism, freedom, initiative, and moral responsibility in the one case than in the other. Likewise, substanceless emotionalism, while alien to the latter field, still occupies "main street" in the former. Intellectual hardihood is nowhere and at no time so imperative as in applying the educative process, and this from infancy to maturity. This is likely to contribute substantially to the development of a severer form of moral fiber.

In all these cardinal directions, the College of Education has made gratifying forward strides during the past academic year. The schools of Ohio have been measurably impregnated with the spirit of educational progress, as is evidenced by the spirit of co-operation and mutual helpfulness everywhere manifested. This is equally manifest with respect to other teacher-training agencies of the State. Our relations are cordial and our common aim sympathetically understood—an aim having for its purpose proper ranking of the public-school system of Ohio among the leading educational systems of the Union.

STATISTICAL DATA

*Total enrollment in the College.....	1109
Number receiving the B.S. degree.....	119
†Summer-session lectures—attendance	4586
Total registration in the College.....	8556
Total registration for graduate work.....	337
Attendance, Third Educational Conference.....	2379
Total number of publications.....	70
Total number of lectures delivered.....	168
Number of studies in press.....	8
Scientific meetings attended.....	21

EDUCATIONAL CONFERENCE

The Second Annual Educational Conference succeeded beyond reasonable expectations. The attendance increased from 800 for the first conference to approximately 2400 for the second—a gain of 200 percent. Illinois, Pennsylvania, and Ohio State Universities, in the order here given, maintained the larger conferences held in 18 universities of the country. A detailed statement of the Conference Committee is included in the report.

*Includes Summer-session enrollment.

†Does not include attendance on the last two lectures.

BUREAU OF EDUCATIONAL RESEARCH

Of outstanding importance are the contributions which the Bureau is making to the school interests of Ohio. The scope of its service is set forth in a statement prepared by the Director and included in this report. The establishment of the Bureau, the publication of our Bulletin, and the publication of the Journal of Educational Research have contributed in largest measure in securing favorable attention from the school people of Ohio and in enlisting their active interest in and support of an educational program at the State University. The solid accomplishment of the Bureau during the first year of its establishment is a matter of considerable satisfaction and is prophetic of its greater usefulness when facilities are more adequate and when the normal disturbances connected with the initial year of its existence have disappeared.

DEPARTMENTAL PROGRESS

The Department of Psychology, by inviting Dr. H. H. Goddard to a permanent place in its staff and by the addition of Dr. Williams has recovered its loss sustained by the resignation of Drs. Pitner and Bridges.

The Department of Principles and Practice has been reorganized and strengthened by the addition of Dr. B. H. Bode, formerly of the faculty of the University of Illinois.

The condition in the Department of School Administration has been improved by the addition of an Assistant Professor. The graduate demands of this Department have increased far beyond our ability to meet them with any reasonable degree of satisfaction. The increase is very significant, extremely gratifying, and precisely at the point where increase is desired, namely, in the number of superintendents, principals, and supervisors engaged in administrative positions of the public-school service. Obviously what is imperatively needed here is an addition of a strong research faculty—men capable of directing graduate work of advanced students in the problems of educational administration.

The Department of Fine Arts, in adding Assistant Professor Fanning and Mr. Bruce Saville to its staff, notably enlarged its program. The addition of plastic art to the offerings of the Department fills a need long recognized by the departmental head and others interested in maintaining a desirable balance between humanism and vocationalism.

The Departments of History of Education and Industrial Education have normally progressed as indicated by the accompanying departmental reports.

DEPARTMENTAL REPORTS

Except when otherwise indicated, the following reports were prepared by heads of departments. They are incorporated, for the most part, as submitted.

Respectfully yours,

GEORGE F. ARPS.

FINE ARTS REPORT

CHARLES FABENS KELLEY

The enrollment during the year was slightly larger than that of last year, with a total of 1423 against 1402. The number of students registering for advanced courses is gratifying, and I feel that a distinct forward step has been made. Mr. Saville's work has brought the Department favorably before the public as well as the articles written by Mr. Fanning. Miss Robinson's activity on the Committee for Art Curricula in the Public Schools of Ohio has attracted favorable attention. As President of the Columbus Art League, the Head of the Department has been able to make the Department of service in a municipal way. We are having a more ambitious series of small exhibitions in our cases in the corridor in Hayes Hall and shall expect better ones next year.

PUBLICATIONS

By Ralph Fanning—Church Towers of the Meuse (illustrated), November Architecture, Chas. Scribner's Sons, N. Y. Michelangelo, April Quarterly Archi.

By Alma Knauber—Dress in the Home, February Agricultural Student.

ADDRESSES AND LECTURES

By Charles Fabens Kelley—Chinese Landscape Paintings, Metropolitan Museum of Art, New York City, January 1.

RESEARCH IN PROGRESS

By Ralph Fanning—Translation of Saladin's L'Art Moslem.

By Bruce Saville—Bronze Monument for Peace Memorial, for Ohio State Capitol Grounds. Memorial Tablet for Ravenna, Ohio. Portrait Bust of Dr. Mendenhall. Portrait Bust of Mrs. Summer.

By Alice Robinson—Investigation of Status of Art Instruction in State of Ohio.

HISTORY OF EDUCATION

LEWIS FLINT ANDERSON

During the year seven students have been taking graduate work in the Department. Of these, five are candidates for the degree of M.A. and two for the degree of Ph.D. Six of these are taking their minor courses, while one is taking his major work in the field of this Department. The latter will in all probability complete

the requirements for the degree of M.A. by the close of the first term of the Summer Quarter.

The increase over last year, both in total enrollment and in the number of courses given for graduates and undergraduates, has practically precluded all research other than that immediately related to the regular instructional work of the Department.

Some progress has been made, however, in bringing toward completion a study of the development of the theory and practice of school education in the industries. An historical study of the social status of the teacher is also under way.

The members of the seminary of the Department have been engaged throughout the year in a series of studies of the development of the aims and methods of teaching the various subjects, respectively, of the common-school curriculum.

INDUSTRIAL EDUCATION

ELDON L. USRY

The personnel of the Department has remained the same as for the previous year: Professor E. L. Usry, Head of the Department; Mr. R. E. Smith, Instructor.

To meet the requirements of the Smith-Hughes work, the following men were employed for evening teacher-training classes:

At Columbus—Professor E. L. Beck, Trade English; Mr. Frank P. Darby, Trade Drawing; Mr. Walter Bailey, Trade Mathematics and Science.

At Toledo—Mr. Laurence Parker, Trade Theory, Organization, and Administration; Mr. Eugene Bordinat, Trade Mathematics, Science, Drawing, and English.

ENROLLMENT

		Previous Yr.
Summer Session 1921.....	58	38
First Semester	49	32
Second Semester	68	88
Total	175	158

This is the largest enrollment in the history of the Department. The number in the Summer Session is especially gratifying, being in excess of that of any of the Midwestern universities. Our Summer-school group is partly made up of men who come to us summer after summer, some for the past eight or nine years. This we

feel to be a distinct expression of their conviction that work of a high standard is being offered and that this work is especially helpful to them as teachers already in service.

ADDRESSES AND LECTURES

At the request of Dr. Collicott, Superintendent of Columbus Schools, a series of weekly lectures was conducted by Mr. Usry for the Manual Arts Teachers of Columbus. Though this course continued for a period of six months and attendance was not compulsory, the enrollment was 25 and attendance well sustained throughout the period.

Addresses and short talks of a professional and semiprofessional nature have been given before such organizations as the Middle Western Manual Arts and Industrial Teachers' Conference convening at the University of Michigan; the Manual Arts Section of the State Teachers' Meeting at Columbus; the conference, at Chicago, of the Chairmen and Secretaries of University Y. M. C. A.'s of the Big Ten.

CONSTRUCTIVE WORK IN PROGRESS

Our courses of Lessons for Theory of Teaching Trade, Trade Analysis, and Organization are ready for submission to the publisher.

Our courses of Lessons for Trade Mathematics and Science in Smith-Hughes Work, revised and improved each year, have been successful.

Our Farm Shopwork Handbook is still in the making. The fact that we are relieved of the Smith-Hughes work will give much desired time for more constructive and research work.

SMITH-HUGHES WORK

Classes are conducted at Columbus and Toledo. The industrial depression was somewhat of a handicap; however, we were able to certify for teaching diplomas a total of 22 men. We are very glad to be relieved of this work. With all of our time devoted to the University work, the Department looks forward to serving a greater usefulness than in the past. The plan of concentrating this important work under one department and in one institution will add much to its effectiveness. The theory of this type of work is sound, and if conducted on accepted University standards and practice will justify itself in actual practice.

MUSIC REPORT

ROYAL D. HUGHES

The enrollment in music for the Summer Session of 1921 numbered 123 students. The enrollment is very satisfactory since courses in school music were offered for the first time in the University. Expressions of sincere appreciation on the part of faculty, students, and friends of music show that the placing of music on the University calendar was regarded with unusual favor.

The courses were well received by students and the outlined work has been carried out with enthusiasm by all except a few who looked upon the work as an easy way to secure credits; these quickly eliminated themselves from the classes. The work was first planned with the idea of making music credits the equivalent of any university credit. These plans have had to be modified to some extent, on account of the lack of standard requirements in music in the University and the lack of advancement of the average pupil in our classes. The experience of the Summer Session clearly indicates that the students are catching the spirit of the work and that in future summers advanced standards can easily be maintained.

Since the first summer's work was largely an experiment to determine student needs, it is appropriate to suggest certain changes advisable for future courses. The comparatively light enrollment in ear training (four students) and theory classes (four students) indicates that the students as a body are not yet ready for these newer steps in teacher preparation but still need much along the common school-music lines. I would therefore recommend discontinuing the courses I have mentioned above, adding more courses along strictly school-music lines, and allowing all other courses to wait upon the growth of the department and the development of a consciousness of need among the students.

This brief report will give some idea of the way we are trying to fit into the University scheme and at the same time minister to the present needs of our students. The kindly spirit shown toward our efforts by both students and teachers on the campus has made the work a great pleasure.

PRINCIPLES AND PRACTICE REPORT

BOYD H. BODE

The year just closed has been of more than usual significance to the Department of Principles and Practice. In the first place, at the beginning of the year the arrangement with the State Department of Education, by which Professors Twiss and Landsittel divided their time equally between the State Department of Education and the University, was discontinued; so that the department made a notable gain in teaching strength. The departmental faculty was further augmented by my arrival and by the appointment of an assistant. Secondly, the department has undertaken a reorganization of its work, which was put into operation in part, during the year, but which, in large measure, had to be held in abeyance until after the close of the year.

This reorganization was based on the division of the departmental work along three main lines, viz.: Principles of Education, Secondary Education, and Elementary Education. With the beginning of the year the department was in a position to take over the semester course in Social Education, formerly given by Professor Leighton of the Department of Philosophy, and the two-semester course in Philosophy of Education, formerly given by Professor Anderson of the Department of History and Philosophy of Education. As a result, there were seven semester courses in the field of Principles of Education given in the department during the past year, which is a fair beginning in this direction.

It is only at this point, however, that the department could show any increase in the extent of its work. In secondary education only two courses were offered, each of which was repeated in the second semester. One of these was a course in Principles and Methods of High-school Teaching; the other was a course in Supervision of Teaching. These courses represented no expansion, but were carried over from the year before. In Elementary Education no beginning was made at all.

The fact that no more was attempted, in spite of the increase in the teaching strength of the department, requires an explanation. By virtue of a special arrangement with the University, the State Department of Education secured the full time of Professor Landsittel during the first semester, which, in effect, was the same as though the previous arrangement, as to Professors Twiss and Landsittel had been continued until the beginning of the second

semester. When the second semester arrived, the enrollment in the course in Practice Teaching was so heavy that it required all the time of these two men, in addition to the time that Professor Clifton was able to give to it. However, three new courses in Elementary Education and one new course in Secondary Education have been announced for each term of the Summer Quarter, and this work will also be offered during the ensuing three quarters of the year.

At the beginning of the second semester a six weeks' leave of absence was granted to Professor Twiss for the purpose of making a survey of science teaching in Southern colleges for negroes. This survey was made at the request of the Rockefeller Educational Board, which provided a substitute for Professor Twiss in the person of Mr. R. D. Bennett. The report of this survey will presumably appear in print at some later time. Since that time another leave of absence was granted to Professor Twiss, for the period of next two academic years. This leave was granted so that Professor Twiss might accept an invitation from the Chinese Government to make a survey of science teaching in the schools of China. These requests are gratifying evidence that Professor Twiss is widely recognized as an authority on the teaching of Science. Temporary provision for Professor Twiss's work has been made by the appointment of Mr. Bennett as assistant professor, for a period of four successive quarters, beginning with the Summer Quarter of 1922.

One of the immediate problems of the department is to give adequate attention to the practice teaching, and still leave a margin of time for the giving of courses in the field of Secondary and Elementary Education. During the past year the department has had charge of 110 practice teachers. In the future this work will be divided between the Autumn and the Spring Quarters, which means that, without allowing for any increase in enrollment, the Department will have to supervise the work of between 50 and 60 practice teachers during each of the two quarters. In the judgment of experts, the care of 20 practice teachers constitutes a full load for the supervisor. The supervision of between 50 and 60 practice teachers, therefore, should constitute a full program for two men, in addition to the time that Professor Clifton is able to give to this work, aside from his duties in connection with the Appointment Bureau, the Annual Educational Conference, and his teaching. Most of the teaching to be done by the other two men will fall in the Winter Quarter, when there is no practice teaching, but a little

will be done by them during the other two quarters also. This arrangement, however, can be regarded as only a temporary measure. It happens that Professor Bennett's appointment, as substitute for Professor Twiss, is for four successive quarters, which is one quarter in excess of the ordinary teaching year. This extra quarter, therefore, represents no charge upon the future in the form of credit towards leave of absence. Professor Landsittel expects to be on duty continuously for the same period, but in his case the University incurs a deficit to be made up at some future time in the form of leave of absence. Since the department is obliged to present its full teaching strength during the Summer Quarter, it may easily be seen that the development of the work in the different fields for which the department is responsible will require a number of additions to the staff. Without such additions it will be impossible to continue even the modest amount of teaching that is planned for next year, without accumulating deficits in the form of claims for leave of absence. There is urgent need of increasing the amount of teaching and for providing a system of rotation in leaves of absence that will not interfere injuriously with the continuity of the work. For the coming year the only advance in this direction has been the change of the part-time assistantship to a full-time teaching assistantship.

During the past year the number of semester courses, including the course in Practice Teaching, given in the department was 13, with a total enrollment of 484*. Of this number 321 were enrolled in courses for undergraduates, and 163 in courses for advanced undergraduates and graduates. No strictly graduate courses were offered, although one of the advanced courses was virtually a graduate course. Four students doing their major work in the department were candidates for an advanced degree, of whom one received the Master's degree at the last commencement.

The other activities of members of the department include the giving of an extension course at Washington Court House, which carried two semester credits; also publications to the extent of one book, one survey, two addresses, and one article. Three additional articles are in press. Other addresses on professional subjects were made by members of the department to the number of about 60.

* This includes an enrollment of 44 students in an extension course given at Washington Court House.

PSYCHOLOGY REPORT

GEORGE F. ARPS

Student registration in the department for the current year was 3888, an increase over the preceding year of approximately five percent. The average enrollment per elementary section was 46. A number of sections enrolled above 100 students. It is probable that teaching efficiency decreases rapidly when a class enrollment exceeds 35. The question of size of class and teaching effectiveness should be submitted to careful educational experimentation.

COMPARATIVE ENROLLMENT STATISTICS FOR THE YEAR ENDING
JUNE 30, 1922

	First Semester	Second Semester
Elementary psychology	1355	1282
Educational psychology	167	149
Advanced psychology	383	329
Summer session (divided)	112	111
Total	2017	1871

FOR PRECEDING YEARS

	Summer School	First Semester	Second Semester
1915-16	245	875	no record
1916-17	266	1058	981
*1917-18	178	919	819
*1918-19	152	889	796
*1919-20	190	1479	1405
1920-21	246	1795	1663
**1921-22	223	1905	1760

The Four-quarter Plan of organization considerably increases the time devoted to elementary instruction. Courses above the elementary are likewise affected. This increased levy on the present staff and the normal growth of the department have made it impossible to catch up with the existing demand.

With the data for the closed year before us it is a matter of interest to present a relatively complete picture of the department

* War years.

** No Elementary courses offered in Summer Session.

in "caught-up" status. The following table represents such a status on a future two-year basis:

No.	Course	Credit	Quarter Hours First Year	Quarter Hours Second Year
401-402	Elementary	5	425	475
407	Educational	5	40	45
410	School subjects	3	6	6
417	Educational guidance	3	3	6
601-602	Experimental laboratory	3	6	6
603-604	Physiological	3	6	6
607	Genetic	5	10	10
608	Statistics of mental measurement	3	6	6
608 (a)	Advanced statistics of mental measurement	3	3	3
609	Treatment of exceptional child	3	6	6
611	Defective child	3	3	3
613	Mental and educational tests	3	9	9
614	Laboratory in tests	3	6	6
614 (a)	School psychologist	2	8	8
614 (b)	Psychology of learning	3	6	6
614 (c)	Advanced test method	3	3	3
614 (d)	How to study	3	3	3
614 (e)	Educational seminar	2	4	4
615	Clinic	2	8	8
618	Perception	3	3	
618 (a)	Language	3		3
618 (b)	University tests	3	12	12
621	Social	5	10	10
623	Folk	3	3	3
627	Animal	3	3	3
627 (a)	Animal laboratory	3	3	3
629	Advanced	5	5	10
630	Emotion	5	5	5
634	Criminal	3	3	3
634 (a)	Testimony	3	3	3
634 (b)	Mental heredity	3	3	3
635	Advertising	5	10	10
636	Advertising laboratory	3	3	3
637	Industrial	3	3	3
637 (a)	Personnel selection	5		10
637 (b)	Vocational laboratory	3	6	9
641	Abnormal psychology	5	5	5
642	Psycho pathology	3	3	3
643	Medical	1	1	1
647	Theoretical	3		3
650	Minor problems	1 or 2	12	16
801	Major Research		15	20
803	Seminar	2	8	8
805	Literature	1	4	4
Total			684	772

a, b, c, d, e, represent revision of old courses or new courses.

RESIGNATIONS

The resignations of Dr. Rudolph Pintner, Dr. J. W. Bridges, Dr. Harry Crane, and Miss Coy seriously affected the graduate work. Dr. Pintner went to Columbia University, Dr. Bridges to the

University of Toronto, Dr. Crane to the University of North Carolina, and Miss Coy to Teachers College, New York. However, the Department has seven candidates for the A.M. degree and is carrying over three candidates for the Ph.D. degree.

ACTIVITIES OF THE TEACHING PERSONNEL

Publications

George F. Arps—In Memory of Wilhelm Wundt (By his American students), *Psychological Review*, Part XVI, Vol. 28, No. 3, 1921. The Professional Training of Teachers, *Educational Monthly*, Vol. 70, No. 10, 1921. Intelligence Tests and Their Application to School Administration, *Proceedings of the Ohio State Educational Conference*, 1921.

Albert P. Weiss—General Review: Consciousness, Subconsciousness, and the Unconscious, *Psychol. Bulletin*, 1921. Review: Psychology from the Standpoint of the Behaviorist, John B. Watson, 1921, *Psychol. Bulletin*. Review: The Psychology of Learning, W. H. Pyle, *Journal of Educational Research*. Review: The Psychology of the Other One, Max Meyer, *Psychol. Bulletin*, 1921. Discussion: The Stimulus Error, *Jour. of Experimental Psychology*.

Harold E. Burt—The Inspiration Expiration Ratio During Truth and Falsehood, *Jour. of Exp. Psychol.*, Feb., 1921. Further Technique for Inspiration-Expiration Ratios, *Jour. of Exp. Psychol.*, April, 1921. Review: Education for Disabled Soldiers in War and Industry, Crane, *Jour. of Educational Research*, March, 1922. Review: Bamberger's Effect of Physical Makeup of a Book on Children's Selection, *Jour. of Educ. Research*.

Sidney L. Pressey—The High Cost of Testing, *The Elementary School Journal*, Vol. 21, June, 1921, pp. 771-777. Suggestions Looking Toward a Closer Contact With Practical Problems in Work with Educational Tests, *School and Society*, Vol. 13, June 25, 1921, pp. 710-716. The Influence of Color Upon Mental and Motor Efficiency, *The American Jour. of Psychol.*, Vol. 32, July, 1921, pp. 326-356. Measurement of Progress in English in the Upper Grades, *Bulletin of the Extension Division, Indiana University*, August, 1921, pp. 35-45. A Comparison of a Girls' Reform School, Attendants at a State Hospital for the Insane, and Public School Children, *The Jour. of Criminal Law*, Vol. 12, August, 1921, pp. 258-266. Three Refinements of Method in School Surveys (with Florentino Cayco), *Educational Administration and Supervision*, Vol. 7, November, 1921, pp. 433-438. The Practical Utility of the National Intelligence Tests, *Jour. of Educ. Research*, Vol 4, Sept., 1921, pp. 152-155. Empiricism versus Formalism in Work With Mental Tests, *The Jour. of Philosophy*, Vol. 18, July 21, 1921, pp. 393-398.

Laura M. Chassell—Short Scales for Measuring Habits of Good Citizenship (with Clara F. Chassell and Siegfried Maia Upton), *Teachers College Record*, Vol. 23, No. 1, Jan., 1922, pp. 52-79. A Test of Religious Ideas Involving the Ranking of Selected Answers (with Clara F. Chassell), *Religious Education*, Vol. 17, Feb., 1922, No. 1, pp. 55-59.

Erwin A. Esper—Review: The Psychology of Language, *Psychology Bulletin*, Vol. 18, 1921, pp. 490-496.

Luella W. Pressey—Reading Scales for the Second, Third, and Fourth Grades, *Bulletin of the Extension Division, Indiana University*, August, 1921,

pp. 46-52. A First Report on Two Diagnostic Tests in Silent Reading for Grades 2 to 4, *The Elementary School Journal*, Vol. 22, November, 1921, pp. 204-211. Scale of Attainment No. 3—for Measuring Essential Achievement in the Third Grade, *Journal of Educational Research*, Vol. 4, December, 1921, pp. 404-412. An Introduction to the Use of Tests, World Book Company, May, 1922, pp. 260.

Addresses and Lectures

George F. Arps—Ohio State Educational Conference, Columbus, Ohio, 1921. Marietta Advertising Club, Marietta, Ohio, 1921. National Vocational Education Association, Milwaukee, Wisconsin, 1922. National Vocational Guidance Association, Chicago, Illinois, 1922. Ohio State Schoolmen's Conference, Columbus, Ohio, 1921. Conference of Secondary Schools Affiliated With Chicago University, Chicago, Illinois, 1922.

Albert P. Weiss—The Limitations of Behavior, American Association for the Advancement of Science, Toronto, December, 1921. What Is Behaviorism? Sigma Xi, Columbus, February, 1922.

Harold E. Burt—Ohio State Optical Society, Psychology of Vision, December, 1921. University Cheer Leaders, Psychology and Cheer Leading (two lectures), April, 1922.

Sidney L. Pressey—The Nature of Tests of Intelligence. The Use of Tests of Intelligence, Brown County Teachers' Institute, Georgetown, Ohio, August, 1921. The Need for a More Simple and Direct Statistical Procedure in Work With Tests, Ohio State Teachers' Association, December, 1921. Tests of Character Traits, Association of the Principals of Girls' Schools, National Educational Association, February, 1922. The Investigation of Character Traits, Ohio College Association, April, 1922. A Series of Brief Scales of Ability for Use in School Surveys, Second Annual Educational Conference of Ohio, March, 1922.

Luella W. Pressey—Demonstrations of the Administration of Tests of Intelligence and Achievement, Second Annual Educational Conference of Ohio, March, 1922.

A. Sophie Rogers—A Chemical Basis for Religion, Religious Seminar, February, 1922. Passing By, Philomathean Literary Society, April, 1922.

Elizabeth M. Hatch—Nine Lectures on Religious Education in Connection With the Episcopal Church Normal Schools, Diocese of Southern Ohio.

Laura M. Chassell—Some Contributions of Child Psychology to Religious Education, Rogers Bible Class, Indianola Methodist Episcopal Church, Columbus, Ohio, July 24, 1921. Psychological Measurement, Methodist Episcopal Church, Sundance, Wyoming, Sept. 11, 1921. Three Factors Associated With Success in Educational Leadership, American Psychological Association, Princeton, New Jersey, Dec. 30, 1921. Application of Test Methods to Religious Education, Ohio College Association, Columbus, April, 1922.

Research Work in Press or in Progress

George F. Arps—Genesis of Perceptual Reaction. Value of General Academic Subjects in Commercial Education. Social Implications of Educational Selection.

Albert P. Weiss—The Behaviorists Mind, Book. Language Experiments with E. A. Esper. Color-weight Experiment with B. C. Koch. Accommodation—Convergence Experiment with H. Israel.

Harold E. Burt—The Psychology of Trade Name Infringement, an Adaptation of the Group Method. The Confusion of Trade Names as Related to Intelligence. Psychological Methods for Selecting Wholesale Salesmen. The Prediction of Ability in Agricultural Engineering. Sectioning Students in Elementary Psychology on the Basis of Intelligence (in collaboration). Type Legibility as Influenced by Color of Background. Comparative Legibility of Type Families. Influence of Phase of Breathing on Reaction Time. Advertising Experiments with Children versus Adults. Qualities of the Commodity Suggested by the Colored Advertisement. Appropriateness of Facial Expressions in Advertising. The Relation Between Intellectual and Athletic Performance.

S. L. and L. W. Pressey—Primer Scale, a Brief Group Scale for Use in Grades 1-2. Intermediate Classification Test. Senior Classification Test. (These three tests constitute a series of survey scales covering all the school grades). Second-grade Attainment Scale; and Examination in Spelling, Arithmetic, and Reading. Latin Diagnostic Verb Test. Latin Syntax Test. Latin Verb Ending Test (These last three tests were constructed at the request of the Classical League and are being used by them in their testing work). Errors of Punctuation and Sentence Structure in English Compositions. Reliability of Ratings in English Composition. Reliability of Ratings in Handwriting. Study of Punctuation; an analysis of the punctuation used today in comparison with that used fifty years ago. Analysis of the Factors Entering Into Written English. Analysis of Vocabulary Used in Science Books in Junior High School. Experiment on the Efficiency of Teaching in Sections Selected on the Basis of Tests of Intelligence and Those Not Thus Selected. Determination of the Efficiency of Various Tests in Diagnosis of Feeble-mindedness. Analysis of Arithmetic Problems with the Intention of Building a Diagnostic Problem Test in Arithmetic. Investigation of the Importance of Character Traits. Intensive Correlation Study of Pintner's Educational Survey Scale. Reclassification of Pupils in One of the Columbus Schools. English Grammar Test. Capitalization and Punctuation Tests. American History Test. Sports Information Test. Interest Questionnaire Test. X-O Test, Form B—Test for Investigating the Emotions.

Services Rendered

(1) Tests given:

a. Individual tests given in clinic.....	852
b. Group tests given:	
Primer Scales, Grades 1-2.....	3500
Intermediate Test, Grades 3-6.....	4000
Senior Classification Test, Grades 7-12.....	1000
Second-grade Attainment Scale.....	2500
Miscellaneous Achievement Tests.....	1000
College students tested with tests on interests and emotions	1400
Total for all types of tests, 14,252.	
All tests given, scored and handled by students in Psychology	133-
134, and 147-48.	

(2) Schools served:

Eighth Avenue, Park Street, Northwood, North High, Siebert, Eleventh Avenue, Reeb Avenue, Ninth Avenue, Grand-Hubbard Ave-

nue, Worthington, East High. Various County Schools in Franklin County.

Schools outside of Columbus—Bryan, Convoy, New Marshfield, Proctorsville, Marysville, Tippecanoe City. Examining done in individual cases for the Children's Hospital, Speech Clinic, Associated Charities, Police, and Godman Guild.

(3) Report made:

To each school a report was sent including:

- a. A list of children for each half grade in order of score.
- b. A tabulation of scores by half grades showing cases of grade misplacement.
- c. Tabulations of scores by ages showing number and percent of defective and brilliant children.
- d. Age-grade tables.
- e. Such correlations as seemed advisable for bringing out interrelations between ability and achievement.
- f. In schools where second-grade attainment scale was given an individual report card for each child with recommendations for proper placement.
- g. A list of children who might be considered for special classes, either for defectives or for brilliant children.

Elizabeth M. Hatch—Comparison of the Efficiency of Instruction in Unselected Sections of Elementary Psychology with a section selected on the basis of Intelligence Tests (in collaboration). A Doctor's Thesis to be presented at the University of Chicago.

Laura M. Chassell—Multiple Choice Test of Religious Ideas, Committee on Social and Religious Surveys, 111 Fifth Avenue, New York City. Comparison of the Efficiency of Instruction in Unselected Sections in Elementary Psychology with that in sections selected on the basis of Intelligence Tests (in collaboration). Reliability of Original Data versus Refinement of Statistical Procedure. Religious Ideas of the Members of a Seminar in Religious Problems. Qualities Associated with Success in Educational Leadership. Opinion of Reviewers as an Indication of the Merit of a Doctoral Dissertation. A Theory of Recreational Preferences in Physiological Terms. Education in France.

A. Sophie Rogers—Role of Imagery in Perception. Auditory and Tactual Relation of Affection to Perception. Relation of Kinesthesia to Auditory and Tactual Perception. Sequence of Courses Elected by Students in Psychology. Comparison of "Trailers" in Psychology with Those of Other Elementary Courses.

Erwin A. Esper—A Series Experiments in Language covering such topics as, learning, language change and assimilation, the development of categories and concepts. This series of experiments is an attempt to develop a technique for bringing the investigation of language under laboratory conditions.

Paul R. Farnsworth—Movements in Emotions. Experiments in Rhythm.

Frances J. Halsted—Investigation of Trial and Error Learning, to test influence of pleasantness and unpleasantness on improvement.

Robert Axel—Correlations of Mental Tests. Perception of Time. Classification of Elementary Psychology Students on Basis of Intelligence (in collaboration).

ACTIVITIES OF PSYCHOLOGY CLUB AND ALPHA PSI DELTA

- Relationship Between Intelligence and Achievement—Dr. Luella W. Pressey.
- The Influence of Illumination on Efficiency—Dr. Sidney L. Pressey.
- Report of the American Psychological Association at Princeton—Dr. G. F. Arps.
- The Work of the Bureau of Educational Research—Dr. Buckingham.
- Report of the American Association for the Advancement of Science—Dr. A. P. Weiss.
- The Role of the Intelligence Test in a Progressive University—Dr. H. E. Burtt.
- Psychology and Law—F. S. Monnett.
- Group Tests by Dr. Sidney L. Pressey.
- Mental Manifestations of Cord Lesions—Dr. F. C. Wagenhals.
- Psychology of Economics—D. M. Shonting.
- Diagnosis of Mendacity Through Expressive Methods—Dr. H. E. Burtt.
- The Perception of Time—Robert Axel.
- Hypnosis and Mental Healing—A. P. Weiss.
- The Behavioristic and Freudian Attitudes Toward Psychopathology—P. R. Farnsworth.

SCHOOL-ADMINISTRATION REPORT

CHARLES C. McCracken

ENROLLMENT STATISTICS

	Summer	First Sem.	Second Sem.	Total
Undergraduates	70	124	81	275
Graduates	198	156	162	516
Totals	268	280	243	791
Theses in Residence.....	23	4	10	37
Theses in Absentia.....		18	16	34
Ad Interim Projects.....		96	96	192
Totals	23	118	122	263

There were 66 graduate students represented in the Summer-school statistics who are majoring in School Administration, 15 carrying a minor.

Of the graduate students shown in the above tabulation of the First Semester, nine were working toward the Master's degree with a major in School Administration, while five were working in the second year of graduate work toward the degree of Ph.D. In the Second Semester, 11 were working toward the Master's degree, while six were working in the second year of graduate work toward

the Ph.D. degree. At least one of these, Mr. W. W. Coxe, expects to finish next year all the requirements for the Doctor's degree. Investigation of the ad interim students in the Second Semester indicates that of the 96, 39 have given up further graduate work in this University, 17 are not active, and 40 are actively engaged and expect to submit results of their work at the beginning of the Summer Session. The large number of eliminations is due to the fact that this covers all graduate students majoring in the Department of School Administration during the past five years.

Number of students receiving the Master's degree during the year 1921-1922:

Degrees conferred during the year	Degrees conferred June, 1922	Total
0	11	11

PUBLICATIONS

C. C. McCracken—Avoidance of Too Positive Forms of Speech, *Ohio Educational Monthly*, September, 1921. Review: *The American Public School*, by Ross L. Finney; *Journal of Educational Research*, January, 1922. A signed but untitled article, *United Presbyterian*, November, 1921. In Press—Review: *Compulsory School Attendance and Child Labor*, by Forest C. Ensign; *Journal of Educational Research*, June, 1922. A Question to Latin Teachers, *Ohio Educational Monthly*, June, 1922. The Length of the College Year and of College Vacations, *Proceedings of the Ohio College Association*, April, 1922.

E. J. Ashbaugh—Book Review: *How to Measure*, by Wilson and Hoke; *Journal of Educational Research*, Vol. IV, No. 3, 1921. Book Review: *Shackled Youth*, by Yeomans; *Journal of Educational Research*, Vol. IV, No. 4, 1922. Monograph: *Iowa Spelling Scales, Derivation, Uses, and Limitations*; Public School Publishing Co., Bloomington, Illinois.

N. C. MacDonald—*Rural School and Rural-school Consolidation in the United States*, Macmillan Publishing Co.

ADDRESSES AND LECTURES

C. C. McCracken—Ohio State Teachers' Association, Commercial Section, June 29, 1921: *The Professional Preparation of Commercial Teachers*. Trumble County Institute, August, 1921: Ten lectures. Williamson, W. Va.: (1) Address to High School; (2) Address to Teachers; (3) Address to Kiwanis Club, March 30 and 31. Ohio College Association, April, 1922: *The Length of the College Year and of College Vacations*. To the students of Monmouth College, April 25 to 28: three addresses. To the faculty of Monmouth College, April 26: one address. Commencement addresses during May, 1922, at Lucasville, Etna, and Kings Mills.

E. J. Ashbaugh—Community Meeting, Richwood, Ohio, March, 1922. Commencement Addresses during May, 1922, at Junction City, Pickerington, Dresden, and Huntsville.

RESEARCH WORK IN PROGRESS

C. C. McCracken—A survey of Logan County, including the city of Bellefontaine. This survey includes a mental test and three educational tests for

approximately 6400 children; a study of the preparation and qualifications of all the teachers in the county and city; a scoring of all school buildings in these areas; a study of the financial situation of each district; an age and grade study; a health examination for each child and factors that are of vital importance in the consolidation of rural schools.

E. J. Ashbaugh—Evaluation of Difficulty of Basic Spelling Vocabulary in Junior High-school Grades. Determination of Vocabulary Used by Junior High-school Pupils Writing Letters Outside of School. Examination of English Used by Junior High-school Pupils in Spontaneous Writing.

MISCELLANEOUS ACTIVITIES

C. C. McCracken—Survey of the curriculum of Monmouth College, Monmouth, Illinois, with recommendations for certain reorganization. These recommendations were acted upon favorably by the faculty and by the Board of Trustees. As a part of this survey there was a confidential report to the President concerning his teaching staff.

E. J. Ashbaugh—Associate Editor, *Journal of Educational Research*. Vice-president, Educational Research Association.

GENERAL CONSIDERATIONS

Incident to entering on the Quarter System, the Department has reorganized all of its courses. Heretofore the courses followed somewhat the administrative units, such as elementary school, secondary school, etc., as ordinarily found in the public-school system. Owing to the indefiniteness of many of these units today, brought about largely by the introduction of the junior high school, there was constant overlapping. Instead, therefore, of such a division, the Department has organized courses dealing with such topics as Child Accounting, School Finance, the Teaching Corps, etc., which will deal with these phases throughout the system as a whole. We feel that this is a much sounder basis upon which to build, and find that it has met with a hearty response from the school men with whom we have talked concerning it. The Department has other courses in view that will allow a considerable expansion, but which will largely grow out of the present courses as soon as they are well under way.

The work of the Department of School Administration during the Summer Session has grown enormously, as indicated by the registration for the summer of 1921. It is difficult to forecast how many men will expect to remain during the entire Summer Quarter, but we estimate that the great majority will find it possible to remain only the first six weeks. The outcome of this will be known only after we have had one Summer Quarter's trial of it. It seems evident, however, that the Department will have to have considerable help from the outside each summer during the first half of the Quarter.

The Department has planned to have each member of the teaching force on duty during the Summer Quarter. Furthermore, our plan calls for one quarter off for each instructor some time during the year. The Department wished to conform to available resources and felt that for the first year at least no instructor should be kept on duty the full four quarters and thus accumulate a reserve that might result in budgetary embarrassment.

The Department recognizes the size of the problem before it in the preparation and further training of administrative-school men in the State of Ohio. The character of our service should be such that the school men of the State will not find it necessary to go beyond the boundaries of Ohio to complete their training. We are in a fair way to supply this demand of school people occupying advanced positions in the public-school service.

REPORT OF THE SECOND ANNUAL OHIO STATE EDUCATIONAL CONFERENCE

During the fall and early winter of 1921 several meetings of the Conference Committee were held. In the course of these meetings the general plans for the second annual session were formulated. It was decided to call the annual meeting "The Educational Conference of the Ohio State University." The idea was to adopt a name broad enough to include within the scope of the Conference every type of educational activity. In conformity with this idea, the number of sections for the second Conference was made practically twice as large as the number of sections for the first Conference.

It was thought advisable to adopt a keynote for the Conference; and certain expressions from the field united with the opinions of the members of the Committee in pointing to supervision as the general idea which might well dominate the 1922 Conference. A more specific application of the idea of supervision was made when it was sought to give prominence in the general sessions as well as in the appropriate sectional meetings, to the idea of supervision as exercised by the building principal. With this aim in mind, two outside speakers were obtained for the general sessions whose prominence as educators rested upon their work as building principals. These were Dr. Arthur C. Perry, Jr., District Superintendent of Schools at New York, and Mr. Angelo Patri, Principal of Public School 45, the Bronx, New York City. Subsequently, one other outside speaker was added to the general program, namely, Dr. W. W. Charters, Director of the Research Bureau for Retail Training, Carnegie Institute of Technology.

The Conference Committee took charge of organizing of the general program, but for the sectional programs special chairmen were appointed, as follows:

Administrative and Supervisory Research, C. C. McCracken; Agriculture, W. F. Stewart; Art, C. F. Kelley; Biological Science, Raymond C. Osburn; Clinical Psychology, H. H. Goddard; Home Economics, Mrs. Maude G. Adams; Educational Tests, Mrs. Luella Pressey; Elementary Principals, B. R. Buckingham; English, J. V. Denney; High-school Principals, F. C. Landsittel; History, G. W. Knight; Industrial Education, E. L. Usry; Latin, A. W. Hodgman; Mathematics, C. L. Arnold; Modern Language, M. B. Evans; Music, R. D. Hughes; Nonbiological Science, A. D. Cole; Physical Education, L. W. St. John; Psychological Tests, S. L. Pressey; Teacher Training, B. H. Bode.

Certain directions were given to the chairmen of the sectional meetings with reference to the way in which their programs might fit into the general plan of the Conference, the time at which the sectional meetings would begin and end, and the date at which program copy would be required for the printer. It was decided to hold the Conference on Thursday, Friday, and Saturday, March 23, 24, and 25, beginning with a general session on the evening of March 23 and ending with a general session in the forenoon of March 25. A general session was also held on the evening of March 24. All sections met either in the morning or in the afternoon of Friday, March 24.

Publicity

Chairmen of sections were also asked to furnish the Committee with lists of educational people who would be likely to be interested in their programs. These lists were to be used in a publicity campaign, a part of which was to be directed definitely toward those whose special interests were known or assumed. The chairmen were also invited to submit letters to be sent to those who were likely to be interested in their sectional meetings. In these respects, as in others, the chairmen varied greatly in their interest and activity. If they failed to furnish lists, the Committee made up the best list it could; and if they failed to furnish letters, the deficiency was likewise met by the Committee. In the first instance, about 10,000 letters were mailed to the persons whose names had thus been obtained.

Early in February the first number of the Educational Research Bulletin was issued. It contained an announcement of the Educational Conference. The next five numbers of the Bulletin appeared at intervals of about a week. Each issue contained publicity material and was sent to a mailing list of about 3000 names. In this way statements were published concerning all the sections

except Clinical Psychology, English, History, and Latin. Material for these sections was received too late for publication.

Editorial matter and statements of a general character concerning the Conference were also carried in the Bulletin. About 25 of the first 48 pages of the Bulletin were devoted to the Conference.

A second letter to the persons whose names were on the special mailing list was likewise sent out; and in connection with several of the sections a third letter was issued. In all, about 25,000 letters were sent out.

Publicity was likewise given to the Conference through the systematic presentation of announcements of it at public meetings. Wherever members of the Committee went to deliver addresses, they gave some attention to the forthcoming meeting.

The newspaper publicity was ably handled by H. G. Hullfish. Prior to the meeting of the Conference he sent a large number of "stories" to the newspapers of the State and to the Associated Press. In addition to copy for general release, he wrote special articles. One type of these was sent to the city papers published in each city in which a Conference speaker was located.

Although our clipping service was by no means satisfactory, we were able to secure a rather large number of press cuttings indicating the newspaper publicity which we secured. The following tabulation indicates, so far as we have been able to secure clippings, the extent of this type of publicity:

City	Paper	Number of inches published	Number of insertions	Circulation (1920)
Akron.....	Journal.....	4	1	31,781
Alliance.....	Review.....	8	1	8,982
Ashland.....	Times-Gazette.....	10	2	3,500
Bellefontaine.....	Republican.....	11.5	1	2,500
Bowling Green.....	Tribune.....	20	2	2,447
Bucyrus.....	Forum.....	4.5	1	1,600
Bucyrus.....	Telegraph.....	16	3	3,382
Canton.....	News.....	4	1	15,028
Celina.....	Standard.....	4.25	1	1,600
Centerburg.....	Gazette.....	4.25	1	1,100
Chillicothe.....	Advertiser.....	4	1	3,076
Cincinnati.....	Enquirer.....	1.5	1	23,000
Circleville.....	Herald.....	4.25	1	1,875
Cleveland.....	Plain Dealer.....	10.25	1	167,720
Dayton.....	News.....	8.75	2	35,858
Delaware.....	Gazette.....	4.5	1	1,974
Delaware.....	Herald.....	16.75	2	1,187
Delphos.....	Courant.....	11.5	2	1,350
Delphos.....	Herald.....	11.25	2	1,343

City	Paper	Number of inches published	Number of insertions	Circulation (1920)
Dennison.....	Paragraph.....	6.25	1	1,679
Findlay.....	Courier.....	5.5	1	3,470
Fostoria.....	Times.....	8	1	3,100
Fremont.....	Messenger.....	4.25	1	2,618
Fremont.....	News.....	3.75	1	3,545
Galion.....	Inquirer.....	4.75	1	2,500
Greenville.....	News.....	5.25	1	
Hamilton.....	News.....	12.5	1	6,052
Ironton.....	Irontonian.....	5.5	1	2,950
Kent.....	Courier.....	9.5	2	1,800
Kenton.....	Democrat.....	8.5	2	2,300
Kenton.....	Republican.....	8	2	2,900
Lancaster.....	Eagle.....	9.25	2	4,077
Lancaster.....	Gazette.....	7.25	1	3,550
Lisbon.....	State.....	2	1	1,400
Logan.....	Sentinel.....	1.75	1	1,800
London.....	Democrat.....	4.25	1	4,853
London.....	Press.....	10	2	2,990
Lynchburg.....	News.....	12.75	1	
Mansfield.....	News.....	5.5	1	9,892
Marietta.....	Leader.....	11.25	2	3,137
Marietta.....	Times.....	9.5	1	4,889
Marion.....	Star.....	6.25	2	9,870
Marysville.....	Tribune.....	4.25	1	1,487
Millersburg.....	Farmer.....	5	1	
Mount Vernon.....	Banner.....	1	1	2,377
Newark.....	Advocate.....	16	2	5,618
Newark.....	Tribune.....	.75	1	6,178
Painesville.....	Telegraph.....	14	3	2,700
Piqua.....	Dispatch.....	3.5	1	
St. Marys.....	Leader.....	22.5	3	2,250
Sandusky.....	St. Journal.....	.75	1	6,448
Sidney.....	Journal.....	3.5	1	1,585
Sugarcreek.....	Budget.....	7.25	1	3,450
Tiffin.....	Advertiser.....	4.25	2	3,093
Toledo.....	Times.....	15.5	2	17,059
Troy.....	News.....	8.75	2	2,665
Upper Sandusky.....	Chief.....	4.25	1	2,931
Upper Sandusky.....	Union.....	23	4	1,812
Urbana.....	Democrat.....	23	3	3,672
Washington C. H.....	Republican.....	10.5	1	2,100
Williamsport.....	News.....	6.6	1	500

LOCAL PUBLICITY

Columbus, Ohio.....	Citizen.....	27.5	4	71,278
Columbus, Ohio.....	Dispatch.....	103.5	10	75,662
Columbus, Ohio.....	Journal.....	42.25	5	53,596
Columbus, Ohio.....	OSU Lantern.....	88.5	5	1,530

Totals.....	65	756.75	113	656,666
-------------	----	--------	-----	---------

In further reference to publicity the Committee recommends that clerical assistance be provided for a period of about 10 days prior to the Conference and during the sessions. It is also recommended that a more effective checking system be provided in order that the extent of the publicity may be more accurately determined on the basis of the amount of space devoted to the Conference by the press of the State.

Program

As has already been indicated, the program was divided into general and sectional meetings. At the general meetings the outside speakers were Messrs. Perry, Patri, Charters, Jones, and Condon. Local speakers were President Thompson, Dean Arps, and Professors Buckingham and Bode. Dean Arps presided at the initial meeting, and Superintendents Collicott of Columbus and Reed of Akron presided at the other two general meetings.

The scope of the entire program may be apprehended when it is realized that 98 persons participated. All of these persons either had formal papers or served as chairmen, or were assigned to discussion according to the printed program. Fifty-six of the 98 speakers came from out of town as follows:

From Cleveland.....	11
From Cincinnati.....	6
From Toledo.....	3
From Akron.....	2
From Dayton.....	3
From other cities.....	26
From outside the State.....	5

56

The City of Columbus outside of the University contributed 24 participants to the program. Exactly the same number (24) were furnished by the University.

The speakers may also be classified according to position. There were, for example, 14 city superintendents "on the program," five county superintendents, 10 supervisors, 10 high-school principals, five elementary-school principals, five high-school teachers, and 38 college teachers.* These, together with 10 persons classed as "Miscellaneous" again make up the total of 98 participants.

It is a gratification to note the extent to which the largest cities supported the Conference. The school systems of Cleveland

* These include a few normal-school teachers.

and Cincinnati, with 11 and six speakers, respectively, showed that they were behind the Conference. This fact will also be shown even more impressively when we indicate the number of registrations from these cities.

It has been pointed out by one of our correspondents that the program afforded little opportunity for women to participate. Professor Frances Jenkins of the University of Cincinnati says: "A rough count indicates 91 men and 20 women as recognized by name in the program. No attempt has been made to reduce this number by cutting out the extra activities of individuals, i.e., if a man's name appears three times, it is counted three times. No woman's name appears in the general program. Thirteen of the 20 women are found in such sections as the Home-economics and Special-department fields. No woman appears in the Teacher-training Section, although it might well be asked whether the greater proportion of men or women come close to teachers in this type of work."

As part of the offerings of the Conference, certain exhibits were held. These were a textbook exhibit in room 106 of the Library, a test exhibit in the same location, a health and physical-education exhibit in the Gymnasium, a school-building exhibit in the corridors of the Library, and a biological-science exhibit in room 107 of the Botany and Zoology Building.

It frequently happens that exhibits of these sorts are more or less neglected at educational conferences. We feared that this might be the case in this instance, particularly when the attractiveness of the programs was considered. The exhibits, however, were well attended. In fact, they were actually thronged at times. We would be justified in continuing these exhibits another year and perhaps in adding to them. Our greatest difficulty was lack of space. Our building exhibit would have been much more effective if we had had more room. Some of the material received for display in this exhibit was not even unpacked because we had no means of showing it.

We recommend that the Gymnasium be used for exhibit purposes next year and that the advisability of additional sections of the entire Conference exhibit be considered. We feel sure that the building exhibit should be considerably enlarged.

Analysis of Registration

A special card was printed for use in registering those attending the Conference. A reproduction of this card follows:

THE OHIO STATE UNIVERSITY
EDUCATIONAL CONFERENCE
March 23, 24, 25, 1922

Name.....
Title.....
School.....
P. O. Address.....
.....
.....

The main registration desk was at the Library, but several other desks were established at different times during the Conference. An effort was made to obtain two kinds of registration: (1) general, and (2) sectional. The general registration was designed to give us a list of all the people who attended the Conference in any way. The sectional registration was designed to give us a list of those who attended each section.

It is certain that not all those who attended the Conference registered either in general or at one of the sections. We have checked over the cards, both those gathered by the chairmen of sectional meetings and those collected by the general registrars. For each person who registered in a section but failed to register in the general registration, a card has been made out and put in the general file.

The total number of different persons who registered was 2379. Undoubtedly, 2600 or 2700 attended. This makes the Conference almost, if not quite, the largest one maintained by any university this year. The largest estimate of attendance made by any university was that of the University of Illinois with reference to the attendance at its High-school Conference. This estimate was 2700. Estimates of this character are likely to exceed rather than fall short of the actual attendance.

Attendance at Sectional Meetings

Each presiding officer at a sectional meeting was furnished with registration cards and requested to obtain on these cards the names of those who attended. In at least three of the sections, however, the crowd was so great that this could not be done without seriously interfering with the program. These were the Teacher-training Section, the Elementary Principals' Section, and the Psychological-test Section. Owing to a clerical error, the cards for the

Administrative and Supervisory Research Section were thrown into a drawer for general registration cards and could not afterwards be identified. The Mathematics Section failed to furnish a list of names.

The following tabulation shows either the actual count of registration cards or an estimate of the attendance if the registration cards are not available. In the latter case, the figure is marked as an "estimate."

Section	Attendance
Administrative and Supervisory Research.....	200 (est.)
American History.....	93
Art.....	50
Biological Science.....	75
Clinical Psychology.....	86
Tests.....	314
Demonstration of Tests.....	1000 (est.)
Elementary Principals.....	1100 (est.)
English.....	49
High-school Principals.....	98
Home Economics.....	91
Industrial Arts.....	64
Latin.....	71
Mathematics.....	65 (est.)
Modern Language.....	72
Music.....	53
Nonbiological Science.....	45
Physical Education.....	152
Teacher Training.....	900 (est.)

Total Registration

As has already been stated, 2379 different names appear on our registration cards. The registrants represented by these names may be classified according to location. Complete details are on file in the office of the Bureau of Educational Research. The following are the cities of over 20,000 population from which 20 or more delegates came:

City	Number of Delegates
Columbus.....	1392
Dayton.....	46
Akron.....	37
Newark.....	36
Cleveland.....	33
Cincinnati.....	32
Toledo.....	30
Springfield.....	28
Zanesville.....	22

There were a number of smaller towns near Columbus from which a large representation was present. Among these, Wester-

ville and Delaware should be especially mentioned. It may also be noted that 13 persons registered from outside of the State.

The type of persons who attended the Conference is worth considering. One hundred and sixty-seven indicated their title as city superintendent. This doubtless included assistant superintendents. Forty-eight of the 88 county superintendents made out registration cards. There were 199 supervisors and special teachers, 100 high-school principals, and 212 elementary-school principals. Two hundred registrants were from the Ohio State University.

Three hundred and twenty-four high-school teachers and 163 junior high-school teachers registered. This was the group from which the attendance at a number of the sectional meetings was largely made up. In other words, several sections were organized with special reference to this group—such sections as History, Biological Science, English, Home Economics, Latin, Mathematics, Modern Language, and Nonbiological Science. On the other hand, 652 elementary-school teachers attended; and for these no section was provided. While it is true that most of them came from Columbus, there were about 100 who came from other cities. Without reference to the city from which they came, it would seem advisable to provide more definitely for elementary-school teachers.

One hundred and forty-five registrants held various positions covered by the term "Miscellaneous." Some of these were members of boards of education.

Two or three statements of particular interest may be made from the detailed registration sheet. Sixteen of the 28 cities of over 20,000 population were represented at the Conference by their superintendents. Akron sent 19 elementary-school principals. The colleges and universities of Ohio (outside of the Ohio State University) sent 56 delegates. With the exception of Columbus, Dayton sent the largest number of high-school teachers, namely, 20.

Cost of the Conference

Without carefully going into the records at the business office, the Committee estimates that the cost of the Conference was about \$600. Of this amount, \$319.57 was spent for speakers, as follows:

Principal Patri.....	\$181.36
Doctor Perry.....	100.00
Professor Charters.....	23.76
Professor Hughes.....	14.45
	<hr/>
	\$319.57

Only one of these speakers (namely, Principal Patri) was given an honorarium. That the Conference was run very cheaply will be apparent when in the next section we compare it with the conferences held at other universities. The fact of the matter is, that the Committee was exceedingly fortunate in securing talent—especially that from outside the State—either without cost or merely for traveling expenses. The Committee and the chairmen of sections exercised their personal influence freely, much more freely than will probably be possible on another occasion. Dr. Charters, for example, is accustomed to receive high fees for his services. We paid him nothing except his traveling expenses, amounting, as indicated above, to \$23.73. Dr. Perry also came for what amounted approximately to his expenses.

Comparison With Other Conferences

We have circularized all the important educational institutions of the country in an attempt to find out what they are doing in respect to educational conferences. We obtained reports from all the important institutions (except the University of Pennsylvania) which, according to our general knowledge of the subject, have educational conferences. The omission of a report from the University of Pennsylvania is vexatious since it operates a very successful conference known as the Schoolmen's Week.

As to the types of conferences, those devoted to high schools are most frequent. There are six of them. Indeed, it may be said that this is the only type of conference on which there is any pronounced agreement. Two other conferences, besides our own, are general in character. Two of the conferences are for the benefit of men only.

As to total expense, the median for all the conferences is \$850 and the amount most frequently reported is \$1000. Our expense was estimated at \$600. Four conferences stand out as very much larger than any of the others. These are the conferences held at Illinois, Pittsburgh, the Ohio State University, and Chicago. These conferences may be said to belong to the "2000" class. Ranked according to size, the next largest conference was that of Minnesota with only 500 in attendance. Among the four big conferences, the total expense ranged from \$600 to \$2500, with Ohio State spending the \$600.

The cost per registrant at the Ohio State Conference was only \$.25. In this respect our Conference was the cheapest among the 18 reported. This cost of \$.25 per person may be contrasted with

such costs as \$3.25 at Iowa and \$4 at Michigan. The median cost per person attending these conferences was \$2.80.

Of course, large conferences may be expected to be operated at less per capita cost; but considering the three other members of the "Big Four," or the conferences in the 2000 class, we observe that they (Illinois, Pittsburgh, and Chicago) had a total estimated attendance of exactly 7000, with a total estimated expenditure of \$5800. Thus, these large conferences spent on the average \$.83 per person.

The Committee has had the usual difficulty in securing copies of the papers and reports of discussions. Nearly all of the material has now been collected and the copy is being edited for the printer. In connection with securing material for the printed proceedings, more careful planning will have to be made in the future. It is highly desirable that the book be issued before the close of the school year in which the Conference is held. In order that this may be done, the material should be in the hands of the editor within a few days after the close of the Conference.

<i>The Committee</i>	{	J. L. CLIFTON,
		P. R. STEVENSON,
		E. J. ASHBAUGH,
		B. R. BUCKINGHAM,
		G. F. ARPS.

REPORT OF THE BUREAU OF EDUCATIONAL RESEARCH

For the Year Ending June 30, 1922

B. R. BUCKINGHAM

The following report is submitted for the Bureau of Educational Research for the year ending June 30, 1922:

PROBLEM SURVEY

Early last fall letters were addressed to groups of educational people in an attempt to secure a list of problems for research. The following are the groups of persons who were thus approached: (1) All city superintendents in Ohio; (2) all county superintendents in Ohio; (3) superintendents in cities of 10,000 or more inhabitants throughout the United States; (4) deans and heads of departments of education in colleges and universities throughout the country; (5) presidents of normal schools; (6) state superintendents and commissioners of education; (7) publishers of educational textbooks.

About 500 problems were thus collected, of which 194 were selected as worthy of consideration. These problems have been of great value to graduate students and faculty members. As far as possible, methods of attacking these problems have been devised and bibliographies prepared in connection with them. This work, however, has been delayed through shortage of clerical help and the difficulty of organizing our research library, due to the absence of our reference assistant. Nevertheless, work on a few of the problems has been definitely begun.

GEOGRAPHY TESTS

The compilation of a series of geography tests has been undertaken. The Bureau has been in touch with most of the important geographers of the country through whom criticisms of test items have been obtained. Returns have also been secured from about 70,000 children on a set of tentative tests. Four series of tests are involved: (1) Place Geography; (2) Geography Information; (3) Geography Vocabulary, and (4) Geography Problems. The first of these is practically ready for printing.

THE HOLDING POWER OF THE JUNIOR HIGH SCHOOL

The Bureau has also been interested in the question of child accounting in the junior high school. The specific problem has to do with the extent to which the junior high school induces more children to remain longer in school. The set-up of procedure for this

problem was particularly difficult. One outcome is the realization that school records are inadequate for research purposes, especially if the period of the inquiry is extended. Accordingly, the Bureau is proposing that there be established in different communities in Ohio research stations in affiliation with the Bureau, each station to agree to install a type of records which the Bureau approves and to maintain these records continuously for a period of years.

CLASSIFICATION OF PUPILS

The classification of pupils has occupied the attention of the Bureau. A committee appointed by State Superintendent Riegel under the chairmanship of the Director of the Bureau has been in touch with the superintendents of the State, has formulated a method of procedure, and has adopted a series of questionnaires to be submitted to school systems which on the basis of a preliminary inquiry have been found to be classifying pupils in various ways.

SCALE OF PROBLEMS IN ARITHMETIC

A difficulty scale for arithmetic problems has been compiled. It consists of 242 items, classified according to the proportion of pupils who have been able to solve them correctly. A preliminary report of this project was presented at the December, 1921, meeting of the State Teachers' Association.

ADDITIONAL RESEARCH IN CONNECTION WITH GRADUATE STUDENTS

The Latin project of Mr. Coxe, the investigation of intensive vs. extensive learning in English composition, with which Miss Bennett is concerned, the inquiry into the value of supervised study and the best method of procedure in conducting it, which Mr. Edington is pursuing, and the geography-vocabulary study on which Mr. Gabler is working, are projects in which the Bureau is interested and which were adopted by these graduate students in co-operation with the Bureau.

The problems set up for consideration by the Bureau have played an important part in the assignments of topics to graduate students during the Summer Session of 1922. Mr. Carl Meyer of Canton is working on the holding power of the junior high school. Mr. I. E. Mulholland is utilizing age-grade data in a study of variations in methods of reporting with a view to establishing a standard procedure. Mr. A. B. Weiser has selected for his topic the measurement of supervision. He will probably pursue this inquiry for his Doctor's dissertation. Mr. A. C. Davis of Williamson, West Virginia, is turning the data on tests which he has secured at Wil-

liamson toward the devising of a plan for rating teachers on the basis of their ability to secure measurable results. Mr. A. W. Stewart has selected as his topic the efficiency of departmental teaching. Mr. H. C. Skinner has a topic concerning practice teaching in teacher-training institutions. Mr. Harold W. Emsweiler is studying city-school surveys with a view to formulating an outline for the best type of published survey for a city of 200,000 population. Mr. Dwight H. Stevenson has selected the topic of model lessons. He will devise a method for reporting observed recitations with a view to bringing out a volume of annotated case reports.

CANDIDATES FOR DOCTOR'S DEGREES

The following candidates for Doctor's degrees are working with the Director of the Bureau: W. W. Coxe, Annette Bennett, C. O. Edington, Dwight H. Stevenson, A. W. Stewart, and A. B. Weiser. There are one or two other possible candidates for the doctorate.

FACILITIES FOR GRADUATE STUDY

The library of the Bureau is being utilized continuously by graduate students. Many books are available which cannot be obtained in the General Library. A number of candidates for the Master's degree are pursuing their work in connection with the Bureau and under the supervision of the Director.

PUBLICATIONS AND ADDRESSES

The published pieces that have been signed by the Director number about 25. They include a chapter in a book, a continued article in the Educational Research Bulletin, two editorial introductions to published books, two magazine articles, and a large number of editorials. Four pieces by Mr. Stevenson have been published, the most important being a series on building programs in the Educational Research Bulletin. During the year Miss MacLatchy has published five articles and a number of editorials, although most of this writing was done before she became connected with the Bureau.

Mr. Stevenson delivered two public addresses and the Director delivered 40. During the year Miss MacLatchy delivered three addresses—two of them before her appointment to the Bureau. Ten scientific meetings were attended by members of the staff.

THE LIBRARY DIVISION

The library has three sections—periodicals, textbooks, and reference material. The Bureau receives 118 different periodicals,

including some from England and other parts of the British Empire, France, and Italy. Bound copies of back numbers of many of these periodicals are available. In many instances these bound copies comprise all the volumes that have been issued. In the textbook library there are approximately 1250 books, and although the Bureau has been without the services of the reference assistant, these have been accessioned and classified so as to be reasonably available. A catalogue of all the books has been arranged. The reference library includes about 2500 books, bulletins, pamphlets, and reports. A large portion of this library is not yet permanently arranged, and is therefore not as useful as it will be later.

The preliminary classification is as follows:

- (1) Educational books.
- (2) Monograph series.
- (3) Yearbooks and proceedings of conferences.
- (4) Bulletins of the Federal Bureau of Education.
- (5) Material issued by boards of education (bylaws, courses of study, reports, etc.).
- (6) Reports of higher educational institutions.
- (7) Surveys.
- (8) Educational measurements.
- (9) Psychological studies.
- (10) Directories.
- (11) Catalogues and advertising material.
- (12) Miscellaneous

The library division is regarded as the heart of the Bureau. All the material indicated above has been collected this year. It has not, however, been as available for use as would have been the case if the reference assistant had not been on leave of absence and if the Bureau had not suffered a shortage of clerical service. The organizing of the material in this division must be attended to at once.

THE EDUCATIONAL RESEARCH BULLETIN

The first number of the Educational Research Bulletin was dated January 4, 1922. It consisted of eight double-column pages and the edition was 3000 copies. Before long, however, the edition was increased to 6000 copies in order to take care of increased demands. The Bulletin was published fortnightly from the date of its first issue, and 13 numbers appeared up to the close of the year for which this report is rendered.

This Bulletin was originally designed to portray the research activities of the Bureau and of school people throughout the State. The idea in part was that it should act as a clearing house for information on educational investigations and the uses of the results

of such investigations. It has become clear, however, that as an organ of the College of Education the Bulletin is both something more and something less than was first contemplated. It is something more because it offers publicity to the enterprises of the College in the broad sense. It is something less in that the limited space of eight pages has necessitated the subordination of the research idea. Yet it is certain that the permanent value and the high estimation in which the Bulletin may be held by educational people will rest upon its research features.

The following is a classification of the contents of the first 13 numbers:

	Pages
Educational Conferences.....	25
Articles.....	24
Educational Readings (reviews).....	14
Research Notes.....	13
Editorials.....	11½
Summer Session.....	7
Field Notes.....	4
Other College Announcements.....	3
Bibliography.....	2½
Total.....	104

Several points connected with this analysis are worth mentioning. Almost one-quarter of the space was devoted to Conference matters. Since some of the material classified as "Editorials" likewise concerned the Conference, it is probable that somewhat more than one-fourth of the space was given to the Conference. This was a good use to make of the Bulletin, and the publicity thus secured proved effective. When to the pages devoted to the Conference are added those used for Summer-session and other College announcements, a total of 35 pages, or one-third of the entire space, is accounted for. Thus the research character of the Bulletin has been somewhat diminished.

The department of "Educational Readings" can be very helpful, but it requires more space. In this department we attempt to review the most important periodical and monograph material we receive. It will be noted that "Educational Readings" scarcely averaged more than a page per issue.

MISCELLANEOUS ACTIVITIES

Many activities not directly connected with research fell to the Bureau this first year of its organization. Contacts had to be established, material ordered and installed, and new projects started. Moreover, the Bureau did many things merely because it

was better equipped to handle them than any other available office. A reference bureau is handy, and it is so easy to refer questions to it. This is at it should be; but it is imperative that high-salaried people should not have their time consumed in connection with reference work when cheap clerical labor would accomplish the purpose.

The volume of business of the Bureau may be gauged by the amount of correspondence. The number of letters dictated from September 1, 1921, to June 30, 1922, was 5026. The number of circular letters was about 30,000, and the number of incoming letters about 3000. Therefore, the total volume of first-class mail matter was upwards of 38,000 pieces. This figure is for 10 months, and therefore indicates an average of about 3800 per month. It is the aim of the Bureau to give careful consideration to every serious-minded communication received from the school people of the State.

In addition to this, a large and rather indefinite amount of mail matter other than first-class has been sent out. For example, the Educational Research Bulletin is being mailed from the Bureau, and about 42,000 copies of it have been put in the mail. Incoming material other than first-class included about 1200 textbooks and a large number of packages containing bulletins, reports, pamphlets, and periodicals.

THE EDUCATIONAL CONFERENCE

The Bureau in co-operation with the Dean of the College entered actively into the planning and organizing of the Educational Conference. The equivalent of the time of the entire force for a month was devoted to this enterprise. The activities of the Bureau in this connection fell for the most part under the following heads: publicity, program arrangements, textbook exhibit, school-building exhibit, and management during the Conference.

In closing, two points should be emphasized. The first is the surprisingly large number of useful ways, not connected with research, in which the Bureau can serve the cause of education in general and the College and University in particular. The second is that, with the personnel already created in the Bureau, it would be wise to provide as much cheap labor as the persons now employed can effectively direct. Three types of such service can be utilized at once and to good purpose: (1) one or more research assistants, (2) an assistant in the library division, and (3) student labor of a general clerical character.

REPORT OF THE DEAN OF THE COLLEGE OF ENGINEERING

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Engineering for the year ending June 30, 1922.

ENROLLMENT

	First Semester	Second Semester
Architecture	45	50
Architectural Engineering.....	79	73
Ceramic Engineering	45	48
Chemical Engineering	187	168
Civil Engineering	237	211
Electrical Engineering	382	359
Mechanical Engineering	347	327
Metallurgical Engineering	39	38
Mine Engineering	68	64
General Engineering	37	36
Unclassified	22	17
	<hr/>	<hr/>
Total	1489	1391

In the total enrollment there was an increase of 4.6 percent over that of the past year and the year preceding. This increase is below the normal due to the abnormal increase just after the war. Since the normal increase over a period of several years is about 13 percent, the enrollment for the year 1922-1923 should be about 1680 students.

In comparing the differences in enrollment between semesters it is interesting to note that the shrinkage during the past three years was quite constant, that is, the shrinkage values or ratios of second-semester enrollments to first-semester enrollments are 90 percent, 92.7 percent, and 93.5 percent for the years 1919-1920, 1920-1921, and 1921-1922, respectively. Although there is this natural shrinkage from semester to semester and year to year the sophomore class of this year was nearly 18 percent larger than the freshman class, due partly to the return of former students, but more to admission of students from other institutions.

GRADUATES

The number of students receiving their degrees at commencement, or during the year, was as follows:

Bachelor of Architecture	3
Bachelor of Architectural Engineering	10
Bachelor of Ceramic Engineering	10
Bachelor of Chemical Engineering	24
Bachelor of Civil Engineering	27
Bachelor of Electrical Engineering	26
Bachelor of Mechanical Engineering	38
Bachelor of Metallurgical Engineering	4
Bachelor of Engineering in Mining	7
Bachelor of Engineering	17
Civil Engineer.....	1
Engineer of Mines	1
Total	168

The number of graduates was practically the same as last year, that is, 168 as compared to 170. While this number was nearly constant there was considerable variation in the several departments, Civil, Electrical, and Mechanical Engineering showing a loss, with other departments making a gain. Due to the high registration just after the war and the resulting wave that has been running through this College, it is estimated that there will be an increase in graduates of 40 percent for the year 1922-1923.

FACULTY AND INSTRUCTION

Professor Clyde T. Morris, who was granted a leave of absence in 1921 to serve as Chief Engineer of Design and Construction of the Ohio State University Stadium will continue in that capacity for a portion of this college year or until the completion of the Stadium.

With the close of this year Professor K. D. Swartzel is leaving in order to accept the headship of the Mathematics Department at the University of Pittsburgh. With the exception of one year of study as a student at Harvard University, Professor Swartzel has served this University most faithfully and efficiently since his graduation in 1894 and, while we regret greatly the loss to this College we rejoice in his recognition and the enlarged opportunities now opened to him.

I wish also to mention at this time the honors bestowed upon two members of our faculty in June of last year. To Professor T. E. French was given by Monmouth College the honorary degree of Doctor of Science, and Professor W. T. Magruder was called back

to his Alma Mater, Stevens Institute of Technology, to receive along with other distinguished engineers, the degree of Doctor of Engineering. We rejoice greatly in the honor which has recently been bestowed upon the one man who has done more than any other to place this College where it now stands in the engineering world, although at the present time not actively associated with us, he is and always will be considered a part of this College. We speak of Edward Orton, Jr., upon whom Rutgers College conferred the degree of Doctor of Science, in June of this year when a building was dedicated for research and instruction in Ceramics.

There were very few resignations during the year probably due to the low demand of the commercial field. Practically all of the instructional force were on duty throughout the year, carrying very heavy schedules and holding large classes, in many cases classes twice the size they should be for effective work. The spirit shown by all no matter how heavy the load was most commendable. The same ideal which is set up to our engineering students, namely, the rendering of service, was practiced faithfully by the loyal instructional force.

Lectures to the freshman engineers by the Dean and the several heads of the degree-giving departments continued the same as last year. Mr. R. H. Sweetser of the Columbus Iron & Steel Company gave his talk on "Human Engineering" which was received with much enthusiasm. These lectures under the new curriculum will carry credit and attendance will be required.

NEW EQUIPMENT

With two exceptions very little new equipment was added to the College during the year. A special grant was allowed the Department of Physics with which to purchase X-ray apparatus for research work, and to the Department of Mechanical Engineering an appropriation was made which made possible the purchase of a modern steam turbine unit, direct connected to a direct current generator. This unit when provided with the necessary auxiliaries (which it is hoped will be this year) will help to silence the criticism of years as to the obsolescence of the steam equipment in the laboratory of that department. The establishment during the past year of a Signal Corps by the Federal Government has strengthened greatly the Department of Electrical Engineering in the field of communication. A large amount of very valuable equipment in this field is now available, and many electrical engineering students are electing the work offered by the Signal Corps division of the Department of Military Science. During the past year the Signal

Corps put into successful operation a radio-telephone broadcasting station which had, however, a limited radius. As a result of this work and the close co-operation between this department and that of Electrical Engineering in the radio field there has been established a University broadcasting station and there is being constructed in the former aviation laboratory at the rear of the electrical laboratory two rooms for broadcasting and transmitting which, when equipped, will be fully equal to those stations of the Westinghouse and General Electric Companies. At this time weather, market, and crop reports are sent out daily at 1 o'clock, while at 4 o'clock news items furnished by the International News Service, and road news furnished by the Columbus Automobile Club are being broadcasted.

When one considers the possibility of radio communication,—that people all over the State may listen to concerts, lectures, reports on athletic contests, play by play, (even hear the cheers of spectators), may obtain accurate time signals from the University Observatory, and receive many other benefits—encouragement in every way should be given to this field if for no other reason than that it is putting the University into the homes of the people of Ohio.

The large Riehle 500,000-pound column testing machine ordered last year is now on the campus. It is in storage and must remain so until a suitable space is provided and either a temporary or permanent structure constructed. It is hoped that some provision may be made shortly so that at least a beginning may be made for an Engineering Experiment Station Building, this to house this testing machine.

The need for new equipment in the several departments of this college is just as pressing as one year ago. There has been a slipping backward for several years so that exceptional appropriations will be required at the next biennium to place the several departments where they should be.

BUILDINGS

One-half of the laboratory portion of the new chemical laboratory is now completed and is being equipped. Although relief to chemistry is now a fact, such relief is to a limited extent only and will remain so until at least the laboratory portion of the entire building is constructed.

The addition to the west wing of Brown Hall, now under construction, will relieve the crowded conditions which have existed there for years, but in the Departments of Architecture and Engi-

neering Drawing only. Civil Engineering must continue in its present contracted state until this building is completed, as it has been doing for 11 years.

During the past year the condition in the Mechanical Department has been almost intolerable due to the large classes and limited space in classrooms and laboratories. That space used for classes in design involving drafting table-practice has only one merit, that of light; the drawbacks are heat from steam lines, vibration from shafting, and noise from laboratory work in progress. The schedules for next year call for the laboratories of this department to be in use continuously from 8 a. m. to 5 p. m. each day and until noon Saturday, noon hours excepted.

The additions to this Department as proposed will provide additional classrooms, a drafting or design-room, and additional laboratory space needed not only for present courses but to provide space for that field of engineering which has grown to be one of the largest in the United States, that is, automotive engineering.

In the Department of Electrical Engineering the student load during the past year was much in excess of that just before the war, and during this coming year it will be very excessive—an increase of 130 percent. Communication engineering particularly through radio-telephone and telegraph is now taking such an important part in the electrical field that the present quarters for work of this kind is very inadequate. The space now occupied by Agricultural Engineering when released for Electrical Engineering will help greatly in meeting the present situation. The addition to the present laboratory, as planned and included in the last biennium, is necessary to provide a design-room, sound-proof lecture rooms, laboratories and research rooms. There is no course of greater importance today in engineering than that of Chemical Engineering. In number of graduates this course now stands fourth in this College. The present quarters and its meager equipment compare very unfavorably with that of other departments, and therefore much credit is due for the results produced. While provision is being made for this work in the new chemical laboratory, it has been suggested that this work be housed in Lord Hall along with that of the other lines of applied chemistry.

As was stated in my report of last year, the Mine Engineering Department has been without a laboratory since the burning of the Chemistry Building. The Ceramic Engineering Department has surrendered some of its space to the United States Bureau of Mines and to the publication offices of the American Ceramic Society. The

classes in the Departments of Mechanics, Metallurgy, and Mineralogy have increased greatly in size and their laboratories are overcrowded. This condition will be relieved only when Brown Hall completed, provides new quarters for Mechanics, and the United States Bureau of Mines is given other space.

THE ENGINEERING EXPERIMENT STATION

The personnel of the Advisory Council of the Engineering Experiment Station for the year ending June 30, 1922 was:

E. A. Hitchcock	Director
C. E. Sherman	3 years
J. R. Withrow	3 years
W. T. Magruder	2 years
D. J. Demorest	2 years
F. C. Caldwell	1 year
A. D. Cole	1 year

In your Annual Report for the year ending June 30, 1921, will be found a list of the several projects approved by the Council and actively under way at that time. Of these projects some have been completed and results published, others are completed in the direction of investigation and others are nearly ready for publication. The present status of all active projects is as follows:

Ohio Stream Flow, by Professor C. E. Sherman

It is expected that this bulletin will be ready for the press by October of this year.

Analyzing and Testing of Coals of Ohio, by Professor D. J. Demorest

This investigation has been under way almost continuously for more than one year, and it is expected that the first bulletin will appear about the first of the year 1923. This project has been receiving very fine support from outside interests. The Southern Ohio Coal Exchange, the Ohio Gas and Oil Men's Association, and the American Gas Association are contributing to the extent of \$7800 toward the operation cost of this project.

Bearing Testing Machine, by Professor William T. Magruder

A large amount of data has been obtained and it is expected that the material for this bulletin will soon be in shape for publication.

Effect of Pulsation on Fluid Flow, by Professor Horace Judd

The experimental work on this project is now complete and all material is now being compiled for a paper to be presented at the December meeting of the American Society of Mechanical Engi-

neers. The Experiment Station will therefore secure reprints and publish in bulletin form.

The Thermal, Electrical, Magnetic Properties of Alloys,
by Professor A. W. Smith

This research work was published in the Journal of the Franklin Institute and is now in bulletin form of the Experiment Station.

Sulphur Dioxide Furnaces and Electro Endosmosis and Amalgams,
by Professor J. R. Withrow

As a result of this work several articles are being published in the Journals of Chemical and Metallurgical Engineering, Physical Chemistry, and Industrial and Engineering Chemistry.

Economic Utilization of Liquid Fuel, by Professor C. A. Norman

This matter making a bulletin of about 200 pages has been published and has had wide circulation. Many universities called for its use in class work and the press comments have pointed out the value of the publication.

Investigation of Tapered Struts, by Professor J. E. Boyd

The experimental work on this project is now complete and the material should go to press in October of this year.

Soil Survey Relative to Road Failure, by Professor F. H. Eno

A large amount of research work has been done on this subject and progress has been made although the field is such a new one that much feeling around for clues as to cause of failure must be done. The Ohio Good Roads Federation which is in co-operation with the Experiment Station has planned to raise \$100,000 to assist in prosecuting most vigorously this line of research.

PROJECTS AUTHORIZED DURING THE PAST YEAR

Catalytic Saponification of Oil, by Professor J. R. Withrow

The purpose of this project was to continue the excellent work done by Dr. C. Y. Chang, who received his Doctor's degree at 1921 commencement, having as his thesis, "Catalytic Saponification of Oils and Fats.

Certification and Standardization of Automobile Headlights,
by Professor F. C. Caldwell

Up to the present time about 100 different designs of automobile lenses have been submitted and standardized. This work is self-supporting and is carried on under a rotary fund.

Gasoline-kerosene Survey, by Professor J. R. Withrow.

Much data relating to the gasolines distributed to Columbus filling stations have been obtained and a paper is being prepared for submission to the American Institute of Chemical Engineers.

Chemical Study of Commercial Limes, by Professor J. R. Withrow

During the past year the National Lime Association provided one fellowship for this investigation. Similar fellowships were established at other institutions. After an investigation during March, Dr. M. E. Holmes, Chemical Director of the National Lime Association, stated that more research work was organized and under way at this University than at any other and that he would heartily recommend the continuance of the fellowship another year.

Wire Rope Fastenings, by Professor William T. Magruder

The purpose of this project is primarily to supply reliable and valuable data which may be used in the preparing of safety codes. In the past it has been impossible to satisfy such codes due to lack of accurate information.

*Economical Use of Coals in Different Types of Boiler Furnaces,
by Professor F. W. Marquis*

Due to the character of the equipment now installed in the new University boiler house an exceptional opportunity is afforded to study the characteristics of different types of stoker in the use of Ohio and other coals.

*Heat Conductivity and Heat Transfer of Different Refractories,
by Professor A. S. Watts*

There is great need of investigation work along this line in order to supply to the ceramic industry reliable data about which there can be no question as is the case at the present time relative to data available on this particular subject.

The Washing of Ohio Coals, by Professor W. A. Mueller

Considerable experimental work in this field has now been done in the Department of Metallurgy. It is proposed to carry it much further and so supplement the fuel work now being conducted by Professor Demorest.

Up to the present time there have been published by the College of Engineering and the Engineering Experiment Station 20 bulletins and eight circulars. Although four additional bulletins and two circulars will appear during the next few months some of these have been delayed because some of the professors in charge

have not been able to give the time needed on account of the pressure of their University work.

THE ENGINEERING STUDENT AND HIS ACTIVITIES

During the past two years it has been my endeavor to learn through interviews with many students their reasons for selecting engineering, the causes of their difficulties and failures and their attitude toward university education. A large percentage of students have very little conception as to what engineering really is and of its many and varied fields. Many are taking engineering because some relative is an engineer or some schoolmate has selected it, or their teacher or superintendent advised them to enter this field because of their success in mathematics and science.

Some students take up engineering because of their fondness for machinery—particularly the automobile. This seems to be the case with many reared on the farm. They do not seem to realize that one of the most valuable assets they have is their years of experience in the field of agriculture. Such experience coupled with some natural taste for engineering apparatus makes them doubly valuable in agricultural pursuits. The day is not far distant when the most successful in agriculture will be those experienced in that field but who at the same time have an aptitude for engineering.

We therefore are endeavoring to satisfy ourselves that the student is in his natural field, and then if it should be engineering, to point out the way through the freshman lectures and personal interviews, so that he makes no mistake and that we are not using our energies upon impossible material.

Eliminating the factors of poor preparation and lack of ability, the failures during the freshman year are largely due to two causes—lack of application and attempting too much outside work. Upon entering the University, the student sees that as far as subjects go he has no heavier schedule than when in the high school. He well recalls his success there without excessive application, and therefore concludes that he can, without difficulty, carry other work. Although he may have been advised of the danger he discovers his error at midsemester time and from that time on plans differently.

It has generally been assumed that the irregular student is a poor student. Upon investigation it is found that the larger percentage are good students and the irregularity of these is due to carrying a light schedule made necessary by outside work or to entering with advanced credits from other institutions.

It is with much satisfaction we note the attitude of many students in their desire to secure the greatest possible benefits from their courses. When students protest as to the character of the instruction received and to the large size of their section, although they may be making "good grades," it is a most excellent sign. With many students the obtaining of a degree is simply incidental. They are following engineering because of their love for the work and their desire to render service and to be of value to their community. The altruistic idea is held up to the student as his ideal and as the one principle really worth while.

During the past year we have noticed the development of a closer bond of fellowship among the various engineering groups of our student body, a product, no doubt, of the recently organized Engineers' Student Council. This organization staged a number of noteworthy events, prominent among which were "The Round-up," "The Engineers' Dance" (a social function), "The Engineering Exhibit" (an engineering exhibition, aided by local industries), an active campaign during the period of final examinations in support of the "Honor System," and lastly a demonstration in honor of the President, filling the Chapel to overflowing at the last convocational hour of the year. This tribute to the President was a fine example of the spirit of enthusiasm that marked all their activities, and we hope that this organization will remain a permanent factor in our College, establishing and maintaining standards and promoting those high ideals which should be the heritage of every engineer trained in an institution of this character.

FACULTY ACTIVITIES

During the past two years the engineering faculty has given a very large amount of thought and study to improving the several engineering curricula. They fully realize that times have changed and that the engineer of the future should be trained differently from the one of the past. Although they have had years of experience in engineering teaching during which time they have watched with great interest the successes of their product, they also realize that there is yet room for improvement in the methods of instruction used and in the character and quantity of material presented. In engineering that which is new today may be ancient history tomorrow, therefore the problem of curriculum building is difficult. It is realized that in the classroom there is danger of giving more than the student is capable of absorbing with profit and also that much of that given may be so highly diluted with non-

essentials that the student is really entertained rather than benefited.

Believing in taking advantage of resources about us the Seminar Committee of this College through Professor B. H. Bode of the College of Education was able to present a most valuable program during the past year. Professor Bode gave a series of three lectures, entitled "Teaching Students to Think," "The Purpose of Education," and "Liberal and Professional Education." This last lecture was at a meeting of the Ohio members of the Society for Promotion of Engineering Education in joint session with the Ohio Section of the Mathematical Association of America. The lectures by Professor Bode were most inspiring and the Engineering College was indeed fortunate in being able to draw upon so high an authority in the educational field. One other most interesting and valuable lecture was given in the series, namely, "A New and As Yet Untried Plan for Teaching Students How to Study," by Professor C. W. Foulk of the Department of Chemistry.

It was only necessary to attend the recent annual meeting of the Society for Promotion of Education at the University of Illinois where 60 institutions were represented, to be convinced that there can be no body of educators more alive to questions of education in their particular field than the engineers, for they are planning and building not for the present or immediate future but 50 and 100 years from now. Although men of this College showed their great interest in the many important topics for discussion by the presence of 11 representatives at Illinois—this number being exceeded only by Purdue—yet this interest was only a continuation of that always shown at home. I do not believe that there is anywhere a body of engineering teachers more conscientious, more untiring in their efforts, more devoted to their cause, more thoughtful of their students' welfare, and more interested in their future achievements than your engineering faculty.

Respectfully submitted,

E. A. HITCHCOCK.

REPORT OF THE DEAN OF THE COLLEGE OF HOMEOPATHIC MEDICINE

PRESIDENT W. O. THOMPSON, *the Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report of the College of Homeopathic Medicine and of the University Homeopathic Hospital for the year ending June 30, 1922:

I think it would be fair to say that the College has enjoyed its most successful year. Twenty-six men and one woman entered the freshman class, seven of that number had already received a Bachelor's degree, and taken altogether they were especially well prepared for the study of medicine. The total registration of the College for the year was 54, being the largest enrollment in the history of the College.

The organization of the teaching force reached its highest level during the past year. Inroads upon the College by the war and through illness of Professor Humphrey had been completely overcome.

The research activities in the Department of Materia Medica have been carried on during the past year in a highly satisfactory manner. In addition to Professor Hinsdale and Dr. Hoffman as regular members of the teaching force, through the benefits of the research fund, two additional assistants were available, Mr. A. L. Brown, a graduate in Chemical Engineering, and Mr. S. N. Lord, a graduate in Bacteriology, made valuable additions to this most important work.

The Kettering Research Laboratory is just nearing completion as the college year closes. Its plan was ideal for the carrying on of not only researches in Pharmacology and Homeopathic Materia Medica, but also in the Surgical Specialties and in Laboratory Diagnosis.

The Training School for Nurses likewise reached its highest point in efficiency. For the first time in the history of the School there were adequate pupil nurses to carry on the work in a satisfactory manner. The year was successfully brought to a close by the graduation of 10 nurses from the School.

The Hospital shared in the success of the year, with an increase of more than 500 cases over the previous year, reaching the high level of 6242 for the year. The death rate in the Hospital continued as in past years, being one and one-third percent.

The receipts for the year were slightly less than the previous year, being due to two causes: one for the increase in charity work, of those who paid nothing for room and board and Hospital attention, and also from a large increase in patients from the charitable agencies of the City and State, with whom the special low rate of \$1 per day was still in operation.

The College and Hospital come to a close at the height of success in numbers of students both in the College and in the Training School, at a time when the constructive activities of the College in the field of Homeopathy are attracting world-wide attention and at a time in conduct of Hospital affairs when an exceedingly enviable record has been made in the successful treatment of the sick.

I take this opportunity to express my personal appreciation, especially to the President of the University and the Administrative Officers, for their kindly consideration during the years in which the College of Homeopathic Medicine has had a part in this great University. Up until the time of the action of the Board of Trustees in closing the College, only the most kindly attitude has been shown in the administration of the affairs of this institution.

Respectfully submitted,

CLAUDE A. BURRETT.

From the detailed report presented by Dr. C. A. Burrett, the following statistics are taken:

PATIENT BED DAYS JULY 1, 1921, to JULY 1, 1922

July.....	1899	November.....	1792	March.....	2140
August.....	1643	December.....	1620	April.....	1578
September.....	1508	January.....	1790	May.....	1672
October.....	1526	February.....	1909	June 1.....	1611
Total.....					20,688

CLINICS, YEAR JULY 1921-1922

OUT-PATIENT CLINIC

Orthopedic.....	17
Diagnostic.....	48
Dermatology.....	70
Gynecology.....	162
Surgery.....	656
Therapeutic.....	236
Medical.....	314
O. R. L.....	1897
Pediatrics.....	435

Total.....3835

Ohio State University Students 810

Death Rate $1\frac{1}{3}$ percent.

IN-PATIENT CLINIC

Orthopedic.....	7
Diagnostic.....	29
Dermatology.....	3
Gynecology 109 O.B.....	144
Surgery.....	451
Therapeutic.....	28
Medical.....	78
O. R. L.....	899
Pediatrics.....	100

Total.....1848

Ohio State University Students 147

CASH RECEIVED BY CLINICS, JULY 1, 1921, to JULY 1, 1922

Total cash received.....	\$34,934.57
Total charity.....	5,482.20
Total charge and charity.....	14,152.90

ANNUAL REPORT 1921-1922

Total Out-Patients.....	3835
Ohio State University Students.....	810
Total In-Patients.....	1848
Ohio State University Students.....	147
Total cash received.....	\$34,934.57
Total charity.....	5,482.20
Total charge and charity.....	14,152.90
Total.....	\$54,569.67
Deaths.....	25
Total Patient Bed Days.....	20,688

REPORT OF THE DEAN OF THE COLLEGE OF MEDICINE

PRESIDENT W. O. THOMPSON, *the Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Medicine for the year ending June 30, 1922:

ENROLLMENT

During the year there were enrolled in the College of Medicine 230 students. Of these, 228 were students enrolled in the four-year regular medical course and two were special students taking work in Public Health and Sanitation and Public-health Nursing. Of the total number of students enrolled in the College of Medicine, 222 were men and eight were women. All students registered in the regular medical courses have completed all the necessary 'two years' work in the College of Arts leading to the degree of Bachelor of Science, or Bachelor of Arts on the completion of two or three years' work in the College of Medicine. Practically all students now graduating in the College of Medicine also hold the degree of Bachelor of Science or Bachelor of Arts. Out of 28 students graduating in June, 1922, 26 also had acquired the degree of Bachelor of Arts or Bachelor of Science, and three also had taken advanced degrees in the Graduate School of the Ohio State University or elsewhere. On account of the rigid enforcement of the entrance requirements, the general quality of students entering the College of Medicine has been materially raised. Consequently, it is possible to hold these students to the highest possible standards during the course of their medical work. For some years the College of Arts has operated on the point system and this has been applied to all students in the first two years of the College of Medicine who are candidates for degrees in the College of Arts and has made possible high teaching standards in the first two years of the work of the College of Medicine. Adoption of the point system by the College of Medicine for the entire four years will produce still higher standards of work on the part of students in the last two years.

FACULTY

During the year comparatively few changes have occurred in the personnel of the faculty. Dr. Charles S. Hamilton, one of the leading surgeons of Ohio, was made Professor of Surgery and Head of the Department. Dr. Roy G. Hoskins, Ph.D. Harvard, M.D.

Johns Hopkins, one of the leading younger physiologists of this country, was appointed Professor and Head of the Department of Physiology. The existing Department of Physiology, Physiological Chemistry, and Pharmacology was separated into two departments and Dr. Clayton S. Smith, who has been on the faculty of the College of Medicine for the last two years, was made Professor and Head of the Department of Physiological Chemistry, Pharmacology, and Materia Medica. Dr. John D. Dunham was appointed Assistant Professor of Medicine; Dr. Herman Koerper, Instructor in Obstetrics; Mary H. Oliver, formerly an assistant in Anatomy, was made Instructor in Pathology. Several appointments to assistantships in the various departments were also made.

A careful survey of the work now being given in the first two years of the College of Medicine shows that it is of extremely high order both from the standpoint of teaching and research. The teaching personnel of the last two years is, in the main, most satisfactory, but completely effective work cannot be done until there is more concentration and consolidation of clinical facilities. The Board of Trustees has set aside a considerable sum of money for the development of the Medical School. Plans have been prepared for a new medical-science building on the campus, as well as the building of one unit of the new University Hospital. It is hoped that the work of development of the physical plant of the Medical School will proceed as rapidly as possible.

During the year various members of the faculty of the College of Medicine have contributed articles of scientific value to the various medical and research publications. Attention is especially directed to the *Journal of Endocrinology* under the editorship of Dr. Roy G. Hoskins. This is the only publication of its kind in the world, dealing as it does with the complete study of the action of ductless glands and their relation to body metabolism. Dr. Hoskins, together with Dr. Barker and Dr. Mosenthal of Johns Hopkins University, have edited and issued an extensive five-volume work on the subject of metabolism during the past year, and Dr. Hoskins has contributed numerous chapters to the same. Dr. Emery R. Hayhurst, in conjunction with Dr. George Kober of George Washington University, is issuing a large volume on the subject of Industrial Medicine, which is without doubt the most comprehensive in its field.

During the past year the researches in the field of neurology, conducted by Dr. Francis L. Landacre, Head of the Department of Anatomy, have attracted wide attention. Dr. Landacre, in con-

nection with Dr. C. Judson Herrick of the University of Chicago and Dr. John B. Johnson of the University of Minnesota, has been investigating over a considerable period of years certain related, though separate, problems dealing with the embryological development of the central nervous system. The general problem under investigation by these three neurologists will probably not be completely finished for a period of 10 years, the investigations having been under way already 10 years. However, the combined researches of these men when brought together, judging from the progress which has already been made and published, will furnish the most comprehensive research study in the field of neurology which has ever been produced in this field. The opinion thus expressed is that of the leading investigators of this field.

TEACHING

Progress has been made from year to year in the standardization of methods of teaching, not alone in the teaching of the fundamental subjects, but in the teaching of the clinical subjects. Careful studies and investigations have been made of the methods used elsewhere and the methods followed by the College of Medicine are the result of the experiences in other medical schools as well as new and original methods which have improved the general character of the work. The primary object of a medical school is to produce men who are soundly trained in the fundamentals of medical science. The modern medical school aims to train the student in the art and technique of diagnosis. During the last two years of the medical course the student is given limited experience in using the knowledge in technique which he has gained under the supervision of trained instructors. The ultimate aim is to produce a man or woman who has mastered in as complete a manner as possible the fundamentals in order that he or she may practice medicine and surgery with intelligence and with safety. It must be admitted that medical education as conducted in the best schools of today is mostly education and not mostly medical practice. Doctors are, therefore, not produced at the end of two years of pre-medical college training and four years in a medical college, but there is produced an individual who has a sound fundamental knowledge of the science, art, and technique of medicine by means of which eventually successful practitioners of medicine and surgery may be developed. It is fair to say that a decade ago the tendency in medical schools was to lay stress upon the clinical material available through the various hospitals in association with the Medical College. It is now realized that the stress must be

placed on teaching and that far greater value is to be attained by the thorough study of individual cases rather than by the incomplete study of a great number of cases. This method has been followed for a considerable number of years by the College of Medicine of the Ohio State University. During the last year hospital facilities to the extent of 300 beds have been available for clinical teaching. These facilities have been somewhat scattered in St. Francis Hospital, Protestant Hospital, Children's Hospital, and in the three maternity homes under the supervision of the Medical College. The greatest need has been the concentration of clinical facilities, and this will be made possible on the completion of the plans already outlined by the Board of Trustees dealing with the erection of a new University Hospital. Approximately 3520 cases have been treated during the year of 1921-1922 in the various hospitals affiliated with the College of Medicine. During the year, 3690 patients have been treated (17,908 visits) in the State Street Dispensary. The Dispensary maintains close affiliation with the local Department of Health, the District Nursing Association, and the various charitable organizations in the City.

Especial attention should be directed to the development of the Obstetrical Department. During the year approximately 300 maternity cases have been delivered under the supervision of the instructors in this Department. Students have had the opportunity to study all phases of obstetrics. In the Friend's Rescue Home, the Elizabeth Home, and the Price Home for Colored Girls, all cases are primipara. An unusual opportunity is afforded here for studying this group of more or less difficult obstetrical cases. Many other types of cases needing hospitalization because of impending toxemias or those needing surgical interference, have been handled in the obstetrical wards of Protestant Hospital. An Out-patient Department has been maintained in co-operation with the District Nursing Association, the students thereby gaining experience in the delivery of patients in their homes. Within the last two years the Department has also established three prenatal clinics in various parts of the City. These clinics deal with the hygiene and management of pregnancy. It is now understood that the scientific management of cases of this type begins shortly after conception and extends through until a period of at least six weeks has elapsed subsequent to delivery. The District Nursing Association and the various social centers and charitable organizations of the City have and are now co-operating in this work.

GRADUATE CLINICS

The faculty of the College of Medicine at the close of the academic year inaugurated a series of clinics for graduates in medicine. These clinics were held immediately preceding the Annual Commencement and were exceptionally well attended. It is thought desirable that these clinics should be continued, establishing as they do, direct contact between the Medical School and the practitioners in the field of medicine and surgery. The following is the list of clinics and the faculty members giving them:

Diseases of the Heart and Blood Vessels—Dr. J. H. J. Upham, Professor of Medicine; Dr. E. J. Gordon, Assistant Professor of Medicine.

The Differential Diagnosis of Surgical Disease of the Kidney—Dr. Charles S. Hamilton, Professor of Surgery; Dr. Harley O. Hamilton, Instructor in Surgery (Genito-urinary Diseases).

Diseases of the Kidney—Dr. J. J. Coons, Assistant Professor of Medicine; Dr. S. A. Hatfield, Assistant Professor of Medicine.

The Pathology of the Heart and Blood Vessels. Demonstration—Dr. Ernest Scott, Professor of Pathology.

The Surgical Pathology of the Kidney. Demonstration—Dr. Philip J. Reel, Instructor in Surgical Pathology.

Demonstration of the Application of the Thomas Splint—Dr. Verne A. Dodd, Professor of Surgery.

The Treatment of Fractures of the Forearm by Extension—Dr. Luke Z. Zartman, Instructor in Surgery.

Diseases of the Gastro-intestinal Tract—Dr. John Dudley Dunham, Assistant Professor of Medicine; Dr. John W. Sheetz, Instructor in Medicine.

Appendicitis—Dr. Leslie L. Bigelow, Assistant Professor of Surgery.

Factors in the Diagnosis of Disease of the Gall Bladder—Dr. Isaac B. Harris, Assistant Professor of Surgery.

Empyema—Dr. John W. Means, Instructor in Surgery.

Carcinoma of the Large Intestine—Dr. Edwin A. Hamilton, Assistant Professor of Surgery.

Demonstration in Clinical Pathology—Blood Chemistry and Basal Metabolism—Dr. Carl L. Spohr, Professor of Pathology; Dr. Clayton S. Smith, Professor of Physiological Chemistry.

Displacements of the Uterus—Dr. Yeatman Wardlow, Professor of Clinical Gynecology.

Uterine Myomata: The Indications for Radium Treatment—Dr. Fred Fletcher, Assistant Professor of Surgery.

The Glands of Internal Secretion—Dr. Roy G. Hoskins, Professor of Physiology.

Diseases of the Lung, with especial reference to Tuberculosis—Dr. Halbert B. Blakey, Assistant Professor of Medicine; Dr. Joseph Leist, Instructor in Medicine.

RECOMMENDATIONS

1. On account of the large number of students who are preparing themselves in the Ohio State University and other colleges in this country for the study of medicine, it is quite evident that

definite action must be taken by the University looking toward limiting the enrollment in the various classes in the College of Medicine. A careful study of the situation shows in the case of the College of Medicine of the Ohio State University that the freshman class should be limited to 75 students. In many of the colleges of medicine associated with state universities this limit has been placed as low as 35 to 50, and in some of the larger medical schools the limit has been placed at 150. With an entering class of 75, the faculty of the College of Medicine feels that very complete and adequate training both in the fundamental branches as well as the clinical branches may be furnished. The plan followed elsewhere is to require all applications for admission to be in the hands of the University Examiner by a certain date early in June. From the total list of applications the minimum number for admission are selected, based principally on their scholarship standing in the pre-medical years. The remainder of the applicants are notified that they are not accepted and thus have time to apply for admission to other medical colleges. It is therefore recommended that the Board of Trustees limit the registration in the freshman class of the College of Medicine to 75, effective the beginning of the Fall Quarter, 1923-1924.

2. Following the precedent in most of the dispensaries associated with colleges of medicine, it is recommended that a small registration fee in the amount of 25 cents be charged of all patients, and that a subsequent fee of 10 cents be charged for all subsequent visits of said patients to the Dispensary. The amount of money thus accrued would be properly turned into a rotary fund to purchase emergency supplies which must be available from day to day. It is therefore recommended that the charge of the above-mentioned fees be authorized by the Board of Trustees.

Very truly yours,

E. F. McCAMPBELL, *Dean, College of Medicine.*

REPORT OF THE DEAN OF THE COLLEGE OF VETERINARY MEDICINE

PRESIDENT W. O. THOMPSON, *the Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report for the College of Veterinary Medicine for the year ending June 30, 1922:

GENERAL REMARKS

The student population of the veterinary colleges of North America shows a slight decrease over the preceding year. On November 1, 1921, there were matriculated in the 12 state veterinary schools in the United States 551 students. Of these, 150 were freshmen, 90 sophomores, 157 juniors, 138 seniors, and 16 post-graduate and special students. The following table, compiled from deans' reports, shows the distribution of these students by classes among the 12 state-supported schools:

<i>Name of Institution</i>	1st	2d	3d	4th	Sp.	Tot.
	Yr.	Yr.	Yr.	Yr.		
Alabama Polytechnic Institute.....	10	5	14	12		41
Colorado Agricultural College.....	23	13	19	16	1	72
Cornell University.....	15	13	29	16	4	77
Georgia State College.....	9	5	5	2		21
Iowa State College.....	28	17	18	19	6	88
Kansas State Agricultural College...	12	10	23	10	4	59
Michigan Agricultural College.....	11	5	6	6	1	29
New York University.....	5	1	2	5		13
Ohio State University.....	14	13	24	35		86
University of Pennsylvania.....	11	5	8	7		31
Texas A. and M. College.....	5	1	2	4		12
Washington State College.....	7	2	7	6		22
Total number by classes.....	150	90	157	138	16	551

It will be noted that the College of Veterinary Medicine of this University stands among the highest in attendance, being exceeded only by the Iowa State College.

A careful survey of the total number of licensed graduate and nongraduate veterinarians in the United States, compiled from reports of secretaries of state examining boards, shows that approximately 12,000 graduate and 5000 nongraduate veterinarians have been licensed in the different states. As these figures include all veterinarians who have been licensed to date in each state, to arrive at the actual number still in the profession would require that they

be discounted probably 30 percent. This would make the number of licensed graduates approximately 9000. As a good many veterinarians, not engaged in practice, are not required to qualify before state boards, although they are engaged in some phase of veterinary work (teaching, research, running commercial laboratories, or in regulatory work), obviously they are not included. When they are added it would bring the total number of graduate veterinarians up to about 10,000. Assuming that on the average a veterinarian remains in the profession about 20 years, each year 500 would drop from the ranks. The schools of the country at present are not furnishing more than one-third of the number required to maintain the minimum strength of the profession at its present status. It would seem, therefore, that in the next few years the supply of veterinarians will fall far short of meeting the demand.

The principal factor which has reduced the attendance at veterinary schools is the popular belief that the automotive vehicle has removed the need for veterinarians. This fallacy is involved in the idea that the veterinarian is employed exclusively or mainly in the treatment of horses. This used to be the case, but now a great many practitioners deal chiefly with the other domestic animals. In fact, some of them treat no horses at all. Furthermore, from a survey made by the Horse Association of America, a percentage of the draft horses is coming back, as many business firms find motor vehicles, especially for short hauls with frequent stops, not so economical as horsepower. There is now a marked tendency among large organizations, which consider costs carefully, to use horses in the service in which they are more economical than motor vehicles. Many farmers have found that tractors are too expensive in proportion to the extent of their operation and are using more horses.

The livestock industry of the United States is valued in round numbers at about \$10,000,000,000. The annual losses from fatal diseases among animals are estimated at about \$250,000,000. To this must be added the economic loss due to the occurrence of sickness or injury which constantly involves some 10 percent of our livestock. These facts give a general idea of the urgent need of devising ways and means to reduce these enormous losses, which are passed on to the general consumer like all other costs of production. The cure of disease and injury is a valuable service, but the prevention of disease is of vastly greater importance. Difficult problems involved require for their solution men of exceptional ability and thorough scientific training. From the standpoint of National welfare it is absolutely imperative that the supply of men

of this type and training be kept up. Otherwise the livestock industry will become effaced through plagues which always threaten it.

INCREASED FACILITIES

In a former conference and in my last annual report I formally requested that when the barns and Judging Pavilion are abandoned by the Department of Animal Husbandry, that these buildings be turned over to the College of Veterinary Medicine. This would permit the College to abandon the present Laboratory Building, which is to be razed in the next few years, and to occupy quarters better suited to its rapidly developing needs. Furthermore, it would create, at a minimum cost to the State, one of the best-housed veterinary institutions in the country. The present Cattle Barn could be, at reasonable expense, converted into an anatomical institute, the Horse Barn into a pathological institute, and the Pavilion into an administration building, library, etc. Again I respectfully request that before any distribution is made of these buildings I be given a hearing on this matter by the authorities of the University.

FACULTY

No changes in the teaching staff were made during the past academic year. The senior members of the staff, at least, I trust have become permanent fixtures until the time comes when they can no longer render the efficient service they are now giving to the University and to the State.

Dr. Sisson, whose health is greatly improved, is doing excellent work at home and abroad in popularizing anatomical teaching. He is now recognized internationally as one of the leading comparative anatomists in the world. During the past year he has delivered several addresses on anatomical topics in different parts of the country.

Dr. Brumley continues to develop the clinical facilities until they are now not equaled anywhere in the country. During the past year 6872 animals were treated at the Veterinary Hospital. Every species of domestic animal was represented among the patients. The College now enjoys an enviable reputation from the standpoint of clinical facilities, recognized not only by the students, but by the people of the State who bring their animals to us for treatment.

Dr. Goss continues to render excellent service in Veterinary Pathology. The following report shows the activity of this Sub-department since July 1, 1921:

Total examinations	3803
Necropsies	1028
Horse	35
Ox	45
Sheep	9
Hog	38
Dog	500
Cat	83
Rabbit	6
Chicken	290
Guinea pig	14
Ferret	2
Fox	2
Turkey	1
Duck	1
Goose	1
Parrot	1
Microscopic examinations of tissue.....	1412
Microscopic examinations of feces.....	954
Microscopic examinations of skin.....	309
Museum preparations	271
Photographic negatives	200
Agglutination tests	660
Biological production:	
Antibronchosepticus serum	60,000 c.c.
B. abortus filtrate	4,000 c.c.
B. abortus bacterin	4,000 c.c.
B. avisepticus filtrate	1,000 c.c.
Autogenic bacterin	100 c.c.

In addition to teaching and the routine work in Pathology, Dr. Goss is carrying on research in the abortion-bacillus disease of cattle, goitre of animals, and coccidiosis of fowls. Coccidiosis, on account of its wide prevalency, has obtained great economic importance in this State. It is a fatal infection of poultry and very difficult to control. In addition to his other duties, Dr. Goss has given several demonstrations before farmers and chicken fanciers in different parts of the State under the auspices of the Extension Department of our College of Agriculture. This service seems to be greatly appreciated by those interested in poultry husbandry.

The other members of the teaching staff—Dr. Grossman assisting Dr. Sisson, Drs. Snook, Shoemaker, and Hobbs assisting Dr. Brumley, Drs. Rebrassier and Hendershott assisting Dr. Goss—are each rendering splendid service to the student body and to the people of the State.

CHANGES IN COURSE OF INSTRUCTION

Placing the University on the Four-quarter Plan offered an excellent opportunity to reconstruct the courses of instruction in the College. The four-year course, leading to the degree of Doctor of Veterinary Medicine, has been modified to conform to the modern needs.

A six-year combined course with Agriculture, leading to degrees in both Veterinary Medicine and Agriculture, has been added. This course is designed for those students who desire more comprehensive training in animal husbandry than the regular veterinary course can offer. The demand for men who have had this training is increasing. Both degrees will soon be required of men seeking positions in animal husbandry, especially at teaching institutions and in public service.

BETTERMENTS

As has been stated in previous reports, more money should be made available to the College for original research in the study of the control and eradication of animal plagues prevalent in Ohio. As neither the Agricultural Experiment Station nor the State Board of Agriculture is attempting any serious research work with the diseases of Ohio livestock, outside of its value to the student body of the Colleges of Veterinary Medicine and of Agriculture, it becomes doubly proper for the University to undertake this work. To date no organized constructive plan of research has been possible to carry out as the funds available were too meager. The Ohio farmer finds as the animal population grows denser, the necessary and constant importation of animals, coupled with the increasing pollution of the soil with disease-breeding germs and other parasites, the production of livestock at a profit grows each year more precarious. The only way to meet the situation is to do as has been done in older countries: through adequate State aid, build, man, and equip veterinary institutions which will be of real service to the people. This means taking veterinary medicine, as yet in its infancy in America, more seriously in the future than has been done in the past.

Very respectfully submitted,

DAVID S. WHITE, *Dean.*

REPORT OF THE DEAN OF THE GRADUATE SCHOOL

PRESIDENT W. O. THOMPSON, *The Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the Graduate School for the year ending June 30, 1922.

SOME GENERAL STATISTICAL INFORMATION

The total attendance for the year was 606, an increase of 201 over the attendance of the academic year 1920-1921. The number of degrees granted was 138. More detailed information concerning the enrollment and degrees granted is given in the following table:

	Summer session 1921	Regular session 1921-1922	Total duplicates	Net total	Degrees granted Master's	Ph.D.'s
Men	228	283	66	445	93	13
Women	66	109	14	161	32	0
Total	294	392	80	606	125	13

The wide distribution of the graduate students in the University is shown by the fact that these students were registered in no less than 47 departments of the University. Nevertheless, the great majority was concentrated in a relatively few departments as shown in the following table:

Chemistry	111
School administration	86
English	66
Romance Languages	34
Psychology	31
Economics	27
History	26
Zoology and Entomology	23
Mathematics	21
Botany	18
Agricultural Chemistry and Soils	16

The above figures give the number of students majoring in the subject and do not include those students who were registered for minor work.

Of the 67 students who have been granted the degree of Doctor of Philosophy since the organization of the Graduate School, 29 have taken their major work in the Department of Chemistry; the remaining were distributed among 14 different departments. Undoubtedly, with increasing library facilities, the number of depart-

ments giving graduate work sufficient for the Doctor's degree will be markedly increased.

UNIVERSITIES AND COLLEGES REPRESENTED IN THE GRADUATE SCHOOL

It is of interest to note the source of our graduate student body. No less than 135 colleges are represented by their graduates. Naturally, our own University leads, having a total of 204. Other Ohio colleges are represented by 216, Ohio Wesleyan, Ohio University, Otterbein College, Ohio Northern University, Denison University, Miami University, and Muskingum College leading in the order named. Foreign countries represented are France, South Africa, India, Japan, China, and the Philippine Islands.

IMPORTANT LEGISLATION OF THE YEAR

On an average the Graduate Council has held two meetings each month. Many questions have been discussed and important legislation passed. Some of the important actions of the Council are as follows:

1. Professional Engineering Degrees

There has been an extended discussion between the Graduate Council and official representatives of the faculty of the College of Engineering as to whether the professional engineering degrees should be under the jurisdiction of the Graduate Council or the faculty of the College of Engineering. The main question at issue has been whether or not the work required for these degrees is graduate work in character; if it is so regarded then the action of the Board of Trustees would require it to be under the administration of the Graduate Council. Moreover, it was pointed out that with two exceptions, in all other universities granting such professional degrees the work was regarded as graduate in character and was administered by the Graduate Council. The discussion developed, however, the unanimous feeling on the part of the members of the Council to the effect that it is an unwise policy to regard as a graduate degree any degree that may be obtained wholly or largely *in absentia*. The Council thereupon passed the following resolution:

If the University Faculty deems it wise to grant professional engineering degrees under conditions named in the report of the College of Engineering, dated October 21, the Graduate Council respectfully requests to be relieved from all participation in the award of these degrees.

2. Ad Interim Work During the Four-quarter System

Under the semester system it was possible for a graduate student to complete his residence requirement for a Master's degree in

three summer sessions of eight weeks each, provided he completed a satisfactory amount of graduate work in the *ad interim* periods between the summer sessions. The experience of the Graduate Council has led to the belief that this *ad interim* work, if carried on under definite restrictions and supervision offers a great opportunity to many teachers who find it possible to attend the summer sessions only. Accordingly, the Council modified the regulations so as to make them applicable to the Four-quarter Plan. As passed by the Council these regulations are as follows:

1. That credit be given for approved *ad interim* work sufficient to enable a student to complete the requirements for a Master's degree in four summer terms of six weeks each.

2. That credit be given for the satisfactory completion *ad interim* of work pursued in regular course during two or three weeks of the second term of the Summer Quarter.

3. That students be required to register in the Graduate School for each course pursued *ad interim*.

4. That each student pursuing *ad interim* work be required to report at stated intervals for conference with his instructor.

5. That credit for an *ad interim* course be given only to those who have passed a satisfactory examination in the work of the course.

6. That five years be the maximum time allowed for completing through summer residence and *ad interim* work the requirements for the Master's degree.

3. Funds for Research Work

Early in the year a committee consisting of Dr. A. W. Smith, Dr. G. R. Havens, and Dr. E. N. Transeau was appointed for considering ways and means for more adequately financing the research work of the University. A report of this committee led to a communication to the President and Board of Trustees which is believed to be of so much importance to the future of the graduate work in the University as to warrant its publication in full. This communication is as follows:

TO THE PRESIDENT AND BOARD OF TRUSTEES:

The Graduate Council, realizing that no University can keep a position of leadership in thought and training without a faculty actively engaged in creative work, has been giving new attention to means of providing adequate funds for the promotion and stimulation of such work. We are confronted with the fact that most of the funds are used exclusively for teaching and administration without reference to productive work and the opportunities for growth which it affords. Because of this fact the potential leaders on the faculty seek outside support for their investigations, or failing to obtain such support, cease to take an active part in the development of their subjects.

The older endowed universities have long found it possible to support productive work largely by private contributions. The newer state universities are also beginning to avail themselves of this means of supporting investi-

gational work. At Cornell University there has been established the Heckscher Research Foundation for the support of investigation. From the income of this endowment about 43 grants in aid of research work at Cornell University were made in the year 1921. These grants, which ranged from \$300 to \$3000, amounted in the aggregate to about \$45,000. Recently Dr. I. C. White has given about \$2,000,000 to equip and maintain the Department of Geology at the West Virginia University. Similar contributions to other state universities might be recalled. The recent gifts of Mr. Kettering, Dr. Mendenhall, Mrs. Pomerene, and Dr. Howard indicate that the friends of higher education are also willing to contribute to the support of productive scholarship at the Ohio State University.

If the scholars at the Ohio State University are to make such contributions to knowledge as may be expected from their co-workers at Cornell University and at other universities where special funds are available in aid of investigations, it becomes imperative that the research work at the University be more adequately financed, that there be better provisions for scientific equipment, more ample library facilities, and larger aid and relief for research workers. With this end in view the Graduate Council is considering the possibility of the University making an organized and systematic effort to secure certain funds to be deposited with the Treasurer of the State of Ohio with the understanding that the income from the funds be used (1) in the purchase of special libraries and scientific equipment for large research problems; (2) in providing assistance for investigators who have major investigations in progress; (3) in bringing to the Ohio State University conspicuous scholars for a series of connected lectures in the special field of such scholars and in publishing these lectures in book form; (4) in publishing monographs of distinction written by members of the faculty at the Ohio State University; (5) in encouraging and stimulating at the Ohio State University the highest type of creative work in all its phases.

The Graduate Council respectfully requests that the Board of Trustees approve this undertaking and asks that one of its members be appointed to co-operate with the Dean of the Graduate School and the Graduate Council in the formation of plans by which more adequate support for scholarly work in this University may be secured.

Respectfully submitted,

GEORGE M. BOLLING,
Secretary.

The request contained in the communication was granted by the Board of Trustees and Dr. T. C. Mendenhall was appointed to co-operate with the Graduate Council in carrying out the plan. A committee is now actively engaged in the work.

THE JOSEPH SULLIVANT MEDAL

The report of the Dean of the Graduate School for the year 1920-1921 referred to the Joseph Sullivant Medal and to the part the Graduate Council plays in the award of this medal. Through the generosity of Dr. T. C. Mendenhall, the donor of the medal, the first award is to be made during the present year. In accordance

with the Letter of Gift, it became the duty of the Council to call for nominations and to select from these not more than three nor less than two most worthy of consideration. Fifteen nominations were received and from these the Council, after an extended investigation of the work of the various individuals nominated, selected three candidates. The names of the candidates together with a brief statement of the achievements of each candidate as submitted to the President of the University are included here for permanent record.

GEORGE WESLEY BELLOWS, student in the Ohio State University 1901-1904, National Academician, and member of the National Institute of Arts and Letters.

A painter whose works hang in the galleries of many of the great museums of art throughout our country. Often victor in competitions open to the artists of the world. A man of serious effort, sound craftsmanship, and solid achievement. One whom art critics and his fellow craftsmen, despite their varying tendencies, unite in praising for his power, his originality, his versatility, his sincerity, and his excellence of technique, as one of the greatest living forces in American painting.

BENJAMIN GARVER LAMME, Mechanical Engineer, the Ohio State University, 1888, Chief Engineer of the Westinghouse Electric and Manufacturing Company.

The man who for a third of a century has held a commanding position in the development of electrical-power machinery. Author of many technical papers, and an authority upon the induction motor, the converter, and the turbo-alternator. One whose personal achievements include beside many devices and improvements, the present-day type of enclosed railway motor, the alternating current series railway motor, and the electrical design of the generators in the first great Niagara power development. Sometime Chairman of the Inventions Committee of the Naval Consulting Board, and recipient of the Edison Medal, the highest electrical engineering honor in this country.

HERBERT OSBORN, B.Sc., M.Sc., D.Sc., Professor of Zoology and Entomology, the Ohio State University, 1893-1916; Research Professor, the Ohio State University, 1916—.

One who through his researches in taxonomy, ecology, and economic problems has made numerous contributions to entomological science. Author of many standard works and widely used textbooks. Recognized throughout the world as an authority on one large and important group of insects, and as ranking investiga-

tor of the insects of pasture and meadow grasses. Unequaled as a trainer of productive research students in economic entomology. A wise counselor whose advice is sought by various scientific organizations of national scope; and one to whom they have accorded every honor within their gift. Commanding through his vision into the possibilities of his science, through his sound judgment and his fairmindedness, the confidence of his fellow workers throughout the land, he is considered by them one of the greatest leaders of economic entomology.

GRADUATE SCHOOL LECTURES

The Graduate Council has had a small amount of money available for bringing to the University for one or more lectures men distinguished in different fields of activity. In addition to these, certain departments and societies have also brought to the University a number of lecturers of interest to the graduate student body. Included in this list are:

Professor Ernst Cohen of the University of Utrecht, Holland. Six lectures. Subjects, "The Metastability of Matter," and "Scientific Work and Training in Holland."

Dr. Vernon Kellogg, Permanent Secretary of the National Research Council, Washington, D. C. Subject, "The New Heredity."

Dr. Lewis Madison Terman, Professor of Psychology at Stanford University. Two lectures. Subjects, "Some Recent Trends in Psychological Research," and "The Social and Economic Significance of Intellectual Differences."

Dean Frederick J. E. Woodbridge, Dean of the Graduate School of Columbia University. Subject, "The Tradition of Scholarship."

Dr. Richard B. Moore, Chief Chemist, United States Bureau of Mines. Two lectures. Subjects: "Radium," and "Helium and Its Manufacture."

Professor John Johnston, Professor of Chemistry at Yale University. Subject, "The Origin of Unstable Crystalline Forms of Substances."

Dr. C. E. K. Mees, Eastman Kodak Company. Subject, "A Photographic Research Laboratory."

Dr. Zay Jeffries, Head of the Cleveland Research Bureau of the Aluminum Company of America. Subject, "Some New Developments in Metallography."

Dr. L. R. Jones, University of Wisconsin. Subject, "Disease and Disease Resistance in Plants."

Dr. E. H. Washburn, University of Illinois. Subject, "Physical Chemistry and Ceramics."

Mr. H. E. Howe, Editor of the Journal of Industrial and Engineering Chemistry. Subject, "The Present Status of Chemistry in America."

Dr. Saul Dushman of the General Electric Company. Two lectures. Subjects, "High Vacua and Thermionics," and "The Quantum Theory."

Dr. Edgar F. Smith, President the American Chemical Society. Subject, "The History of Chemistry in America."

Dr. A. J. Dempster, University of Chicago. Subject, "Isotopes."

Dr. U. G. Phillips, University of Michigan. Subject, "Discussion Method in the Teaching of History."

Dr. R. A. Gortner, University of Minnesota. Subject, "Vital Phenomena as Colloid Processes."

Professor John T. Frederick, Editor The Midland Magazine, University of Iowa. Subject, "The Literature of the Middle West."

Vachel Lindsay, author. Subject, Read from his poems.

Hamlin Garland, author, two lectures. Subjects, "A Daughter of the Middle Border," "Grant."

Robert Frost, author. Subject, "A Mountain Interval."

ASSISTANCE RENDERED MEMBERS OF THE INSTRUCTIONAL FORCE

In addition to the money available for lecturers, a small amount was also available for rendering assistance to members of the instructional force engaged in special investigations. Professors to whom such assistance was rendered together with the character of the work of each are as follows:

Professor William Lloyd Evans for his investigation on "The Oxidation Products of Certain Organic Compounds."

Professor Wilbur H. Siebert for his study of "The Loyalists of East Florida."

Professor J. A. Leighton for clerical work in connection with the writing of "Principles of Philosophy."

Professor Sidney L. Pressey for his investigation of "The Psychology of English Teaching."

Professor G. H. McKnight for clerical work in connection with the writing of "English Words and Their Background."

Professor Leonard W. Goss for his investigation of "Cattle Abortion," and "Canine Distemper."

UNIVERSITY PRESS

The Board of Trustees of the University took a decidedly advanced step in establishing a University Press. Our experience shows that this organization of the Press is not yet as definite as it should be. The location of authority should be more definitely fixed and the method of procedure necessary in order to secure publication more adequately defined. It must be confessed that in the matter of publications of scholarly work the University is not living up to its possibilities. I do not believe that the failure is due so much to lack of material as to the inability to secure the funds for the publication. There are always in the hands of the Graduate Council manuscripts of a high order of merit, but lack of funds have prevented the publication of more than a very limited number of these. It is true of course that many of the members of the instructional force publish the results of their studies in various journals. The increase in the cost of printing these journals, how-

ever, has compelled the editors to accept for publication only the briefest accounts of investigations. It would seem to be a poor policy from every standpoint for the University to fail to make available important contributions to the field of knowledge. It is hoped, therefore, that adequate funds will be secured so as to make possible the publication of all worth-while studies.

. POSITIONS OPEN TO GRADUATE STUDENTS

The demand is constantly increasing for young men and women who have, in addition to their baccalaureate degree, one or more years of graduate study. Some idea of the fields of service to which our graduates are called may be inferred from the positions accepted by the 13 candidates for the degree of Ph.D. in June. These are as follows:

Clyde Stewart Adams, Professor of Chemistry, Antioch College, Yellow Springs, Ohio.

Walter Valentine Balduf, Assistant Professor of Entomology, University of Illinois.

Richard Bradfield, Instructor in Soils, University of Missouri.

William Byron Brown, Professor of Physics, Judson School, Rangoon, Burma.

Jacob Cornog, Instructor in Chemistry, University of Iowa.

Dwight Moore DeLong, Assistant Professor of Entomology, Ohio State University.

Herbert Lawrence Dozier, Special Research Assistant, Federal Bureau of Entomology, New Orleans, Louisiana.

Dennis Edward Haley, Assistant Professor of Soils, Pennsylvania State College.

Lawrence Lester Huber, Instructor in Entomology, Summer Quarter, Ohio State University.

Andrew Karsten, Professor of Chemistry in the South Dakota School of Mines.

Jasper Dean Sayre, Instructor in Botany, Ohio State University.

Walter Scott, Assistant Professor of Chemistry, Oregon Agricultural College.

Herbert Spencer, Entomologist at the Trott Experiment Station, Norfolk, Virginia.

In addition to the above the five candidates for the Doctor's degree at the end of the Summer Quarter have accepted positions as follows:

Calvin Adam Buehler, Assistant Professor of Chemistry, University of Tennessee.

Maurice Condit Cross, Associate Professor of Economics, Syracuse University.

Merle Leroy Dundon, Research Fellow, National Research Council.

Joseph Frederick Haskins, Instructor in Chemistry, Wooster College.

Lorin Beryl Sebrell, Research Chemist, Goodyear Rubber Company, Akron, Ohio.

THE GROWTH OF THE GRADUATE SCHOOL

The Graduate School was organized in 1911 with a limited number of students. During the academic year 1921-1922 there were enrolled 606 students. During the same year there were granted 138 degrees—a number exceeded by only three of the 11 colleges of the University. This rapid growth of the School has not been in number of students alone; in fact, the increase in number has been simply a reflection of the growth of the spirit of appreciation of scholarly work in the University. For, after all, it is the spirit which animates a University that decides its true character. Its buildings, libraries, laboratories, its material equipment of all sorts, as important as these are, will be of little avail if there does not animate all the broad spirit of appreciation for scholarly work and of the real function of a University in the advancement of civilization—a spirit that will tolerate no sham of any kind, but that directs the way to sane thinking and wise action.

The old belief, formerly widely prevalent, that the development of graduate work in a university is incompatible with a high order of undergraduate instruction has passed away; for there can be no doubt but that in universities in general, the Graduate School, perhaps more than any other one factor, vitalizes the work of the whole institution.

THE NEEDS OF THE GRADUATE SCHOOL

I have called attention to the rapid growth of the Graduate School in order to make it clear that the School is no longer an infant but that it has become one of the important integral parts of the University. The fact that it is a school rather than a college and that it is under the administration of a small council rather than a faculty has tended unconsciously to diminish the appreciation of the importance of the part the School plays in the University. As a result, its needs are apt not to receive due consideration. The Graduate Council has given this subject serious consideration. It has studied the history of the School and has tried earnestly to forecast the needs of the School for the biennium 1923-1925; and I submit below a brief statement of the conclusions reached. You will note that I have not mentioned in this report any specific sums but have simply dwelt upon the principles involved. The appropriations necessary to meet the needs of the Graduate School will be submitted in a separate document in connection with the discussion of the budget for the biennium, 1923-1925.

1. In the first place, the Council believes that there ought to be available an adequate budget that would fall under the head of

personal service. During the last two years the Council has had a very small sum of money available for this purpose and I am sure that there is no item on the University budget that has more thoroughly justified itself in the promotion of scholarly work than this small allowance. In a great many cases, the research work carried on by the different members of the instructional force includes a certain amount of work that is more or less routine in character. In such cases, we have tried, in so far as our small allowance made it possible, to assist such members by the employment of student or clerical help. A part of this same fund was also used for compensating the University lecturers already referred to in this report. The Council believes that this fund should be very greatly enlarged. It is unnecessary to discuss or to argue the advisability of such appropriations.

The Council also believes that this fund should be increased to such an extent as to make it possible to bring to the University as permanent members of our instructional force men of high scholarly attainments whose main, though not necessarily exclusive function would be to direct graduate instruction. These individuals together with those at present on our instructional force who are engaged largely in giving graduate instruction, would serve as a nucleus for a Graduate Faculty whose budget would be under the direction of the Graduate School just as the budgets of the various departments at present are under the direction of the deans of the different colleges. If the Graduate School continues to grow, and every indication points to this growth, then some such action must be taken. Already in several departments of the University the instructional force is entirely inadequate. A glance at the number of graduate students at present enrolled in certain departments as given in the beginning of this report will make it evident to any thoughtful person acquainted with the character of graduate instruction that the instructional forces of these departments, as at present constituted, are entirely inadequate. The Council believes the plan suggested above is a wise one and will work to the best advantage for the ends desired.

2. There ought also to be available an adequate sum of money to be spent under the direction of the Council with the approval of the President of the University, as an emergency equipment fund to take care of special research projects. At present, the research work in many departments is seriously handicapped through the lack of sufficient equipment. It is, of course, the acme of inefficiency to bring to the University men trained in productive scholarship

and then not supply them with effective tools for carrying on their work.

3. The present sum allowed annually for scholarships and fellowships should be continued. While it is true that this sum is much smaller than available in many of the graduate schools, the Council believes that with this amount as a nucleus, it will be able to supply others from private sources.

4. I have already referred to the lack of funds for the publication of the results of investigations carried on by members of the instructional force. There is no question but that such a fund should be provided.

5. From the standpoint of equipment it is undoubtedly true that the library is one of our greatest weaknesses. It must not be inferred from this, however, that our library is without merit. The collection of 227,000 books, all of which have been wisely selected, constitutes at least a nucleus. For a few departments, the library facilities are fairly adequate; for many others, however, and this number includes many of those that are most dependent on the library, the facilities are not comparable with those universities with which we like to be classed.

This whole subject, however, has been considered in detail by a committee composed of representatives of the various faculties of the University and the report of this committee will be submitted as a separate document. It is only necessary here to add that the Graduate Council is in hearty accord with the report.

In conclusion I wish to express my very keen appreciation to the members of the Graduate Council as well as to you, Mr. President, and to all others who have the interests of the Graduate School at heart and have co-operated in every way in the upbuilding of a reputable Graduate School. The members of the Graduate Council, in particular, have taken the deepest interest in the work. Rarely has any member of the Council been absent from the meetings and then only because of unavoidable circumstances.

Respectfully submitted,

WM. MCPHERSON,
Dean of the Graduate School.

REPORT OF THE STUDENT HEALTH SERVICE DEPARTMENT

PRESIDENT W. O. THOMPSON, *the Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report of the Student Health Service Department for the year ending June 30, 1922:

The work of the Health Service has extended rapidly and improved materially during the year as a result of the enlargement of our quarters, increased equipment, and closer co-operation of all concerned.

HEALTH OF STUDENT BODY

We are pleased to report that we have enjoyed another very healthful year and, with the exception of an epidemic of mild form of influenza and "colds" which occurred during the month of March, the general health has been very good.

THE BIGGEST THING ACCOMPLISHED

There have been 957 visits made to this Department by students, members of the faculty, and employes for advice only. This is over double the number of visits made for this purpose during any previous year and shows a decided increase of interest in "health care" and prevention of sickness. We consider this the biggest thing accomplished this year.

13,110 VISITS

The other outstanding features of the year's work have been as follows:

1. During the year, 13,110 visits were made to this Department, an increase of over 2000 over any previous year, an average of 76 patients daily.

CO-OPERATION

This work was accomplished by a staff consisting of one physician, one nurse, and a clerk, and was made possible only by the hearty co-operation of the Colleges of Pharmacy, Dentistry, Medicine, Homeopathic Medicine, Departments of Applied Optics, Physical Education, Military Science, University Y. M. C. A., State and City Boards of Health, and City physicians.

LESS SERIOUS ILLNESS

2. There were 13,778 school hours lost by students through sickness, which was mostly preventable, but this is 2490 hours less

than last year, regardless of the fact that over 2000 more visits were made, which would indicate that the illness was less severe than last year and that "Health First" methods are being applied.

POPULAR AND ECONOMICAL

3. This Department stands near the head of the list of the most popular departments on the campus, and one of the most used, 4234 different members of the University (3522 men and 712 women) having taken advantage of the privileges this year. This is half the population of the University. The entire cost of this work for the year, including salaries, was less than \$7000.

REPORT BY CLASSES

Classified list of different patients treated:

Freshmen	1429
Sophomores	1175
Juniors	887
Seniors	449
Faculty	73
Graduates	80
Special Students	49
Employees	94
Total	4234

The following table shows the growth of the work during the past five years:

	1917-18	1918-19	1919-20	1920-21	1921-22
Different patients	1,103	1,503	1,913	3,595	4,234
Number of visits.....	2,397	3,167	4,434	10,923	13,110

"HEALTH CARE"

As usual, the majority of the illness occurred among the freshman class. This is to be expected, as the greater number of these students have had little or no training in "health care" previous to entering the University. Our records show that the junior class students were more interested in health and prevention of sickness than members of the other classes. The greatest interest along this line reached its height during the month of January, when 156 calls were made for advice only.

COMMUNICABLE DISEASES

Respiratory

Communicable diseases were the chief causes of illness. Those of the throat and respiratory tract were the most numerous. Coryza, bronchitis, pharyngitis, and tonsillitis were the prevailing ailments.

Influenza

There were 235 cases of influenza treated, 114 of these occurring during the month of March. It is gratifying to note, however, that most of the cases were mild and not one complicated with pneumonia.

Mumps

Twenty-seven suffered from mumps. The complication of orchitis was present in only one case.

Venereal

There were 17 students who contracted acute gonorrheal infection. This is an increase of 13 over last year. With the exception of one case, half of these occurred at the opening of the school year, the balance during the Christmas holidays. Lues was diagnosed three times during the year. One, a case of primary syphilis on the lip, and the other two were secondary manifestations of the disease.

Tuberculosis

Two cases of active tuberculosis of the lungs were discovered. Both of these students promptly withdrew from school and are undergoing active treatment to arrest the disease.

Miscellaneous

There have been five cases of diphtheria, five of chickenpox, four of malaria, and two of scarlet fever reported here, all of whom fully recovered without complications. It is remarkable that this year we have been entirely free from typhoid fever, smallpox, measles, and whoopingcough.

DIGESTIVE DISORDERS

We have had an unusually large number of cases of digestive ailments this year, as the following table will show:

Indigestion (acute gastritis).....	387
Caused by errors in diet, poorly cooked food, etc.	
Enteritis (acute catarrhal).....	167
Caused by exposure to cold, food poisoning, or nervous influence.	
Hyperchloridia and gastralgia.....	58
Mostly due to eye strain, excessive use of tobacco, and nervous influence.	
Constipation	183
Largely due to neglect.	

"HEALTH CARDS"

Special "Health Cards" have been prepared on "Eating and Foods," "Constipation," "Eye Strain," etc., and an educational

campaign will be started in the fall in an effort to prevent some of this trouble.

IMMUNIZATION

During the year, students and employes were given every opportunity to be immunized against smallpox and typhoid fever. In co-operation with the Departments of Physical Education and Military Science, the following work was done:

Vaccination, smallpox.....	229
Innoculation, typhoid fever.....	86
(70 for R. O. T. C., Maj. Beery.)	

Continuing our policy of allowing the patient to select his own physician and of referring cases to specialists when advisable, 322 cases were so referred during the year.

FIRST-AID CABINETS

Early in the school year this Department placed first-aid cabinets in several of the shops and laboratories throughout the campus, to be used under faculty supervision. Their monthly reports show they are finding ample use for them.

EXCUSES RECOMMENDED AND CLASS HOURS LOST

	Excuses	Hours
September, two weeks	150	401
October	372	1,103
November	576	1,703
December	366	1,206
January	542	1,909
February	412	1,243
*March	747	3,732
April	512	1,441
May	337	1,014
June, eight days.....	8	26

Total	4,022	13,778
-------------	-------	--------

*Influenza epidemic.

Ten hundred and thirty-six more excuses were recommended this year than last and 2490 less hours lost.

OUR GREATEST PROBLEM

To accomplish the best results in any kind of medical treatment, the relations between the patient and physician must necessarily be personal and intimate, and as the element of prevention in medicine is beginning to dominate the element of treatment, education should play an extremely important part in our work. To develop the understanding and co-operation of the patient in this educational way requires considerable time, more than we

have been able to give with our limited staff. Our individual "health cards" system of giving printed advice on the prevention of ailments, at the time they are treated, saves a lot of valuable time and is very effective. We believe this method of health propaganda is largely responsible for the good showing the Department has made during the past few years. However, our greatest problem has been to find sufficient time to devote to the individual patient so that he may secure effective and lasting results. On this account, patients visited this Department 432 times during the busy season and were compelled to leave without advice or treatment.

OTHER PROBLEMS

Find the causes and adopt methods of reducing the great number of cases of coryza (ordinary cold) which occur annually in the University. Eight hundred and twenty-five different students suffered from this ailment last year. So many serious complications arise from a "simple cold" in the head that we should put forth every effort to curtail this disease.

Investigate and make an effort to remove the cause of some of the digestive ailments, including malnutrition, from which many students suffer each year.

Seek to establish better rooming and housing conditions for the students.

Provide care and treatment for students who are away from home suffering from contagious diseases.

NEEDS

With an additional part-time physician and an extra nurse, we believe much of the work could be accomplished.

Isolation quarters are badly needed and we trust that ample provision will be made in the building program for suitable accommodation for students suffering from contagious diseases.

An itemized list of ailments and conditions treated are presented on the following pages:

DISEASES AND AILMENTS TREATED

Abscess, alveolar	28	Angina pectoris	1
Abscess, others	27	Angina vincentis	4
Acne vulgaris	47	Anaemia, simple	10
Adenitis, cervical	33	Aortic regurgitation	2
Adenitis, inguinal	12	Appendicitis, acute	12
Adhesions	3	Arterio sclerosis	1
Adenoids	3	Arthritis	15
Alopecia areata	4	Asthma	4
Amenorrhea	17	Aphonia	8

Ascaris lumbricoides	1	Foreign body in hand.....	6
Blepharitis, marginalis.....	4	Foreign body in leg.....	8
Bronchitis, acute	234	Foreign body in throat.....	1
Bronchitis, chronic	14	Foreign body in tongue.....	1
Bursitis	2	Fracture, clavicle	3
Callositas	16	Fracture, ankle.....	1
Carbuncle	23	Fracture, finger.....	1
Caries dental	43	Fracture, forearm.....	1
Cellulitis, without abscess.....	10	Fracture, hand.....	2
Chalazion	3	Fracture, nose.....	4
Cholecystitis	1	Fracture, ribs.....	6
Chickenpox	5	Fracture, wrist.....	1
Clavus	35	Furunculosis	180
Conjunctivitis	95	Ganglion	8
Constipation, chronic	28	Gastralgia	28
Constipation, symptomatic.....	183	Goiter, simple	17
Concussion, brain	3	Goiter, toxic	3
Coryza	823	Globus hysteria	1
Cyst, sebaceous	11	Gingivitis	1
Cystitis	12	Hay fever	3
Deflected septum	4	Hematoma	3
Dermatitis, calorica	128	Herpes simplex	32
Dermatitis, venerata	37	Herpes zoster	4
Dermatitis, medicamentosa.....	3	Hemorrhoids	6
Diphtheria	2	Hiccoughs	4
Diphtheria, suspected	5	Hordeolum	30
Dislocation, elbow	1	Hydrocele	2
Dislocation, finger	14	Hygienic advice	957
Dislocation, knee	1	Hyperhydrosis	11
Dislocation, ribs	2	Hyperchlordia	30
Dislocation, shoulder	4	Hyperemia liver	47
Dislocation, thumb	1	Hypertension	6
Dislocation, wrist	3	Hernia, inguinal	6
Dysmenorrhea	79	Hysteria	6
Dressings, surgical	1212	Heart, acute dilation.....	2
Eczema	49	Impacted cerumen	53
Enteritis	167	Impacted molar	20
Enuresis	4	Impetigo contagiosa	24
Epilepsy	2	Indigestion, acute gastritis.....	387
Epistaxis	20	Infection, arm	12
Erythema, interigo	28	Infection, chin	3
Erythema, multiform	10	Infection, ear	5
Erythema, nodosum	3	Infection, eye	5
Erysipelas	1	Infection, face	11
Eye examination	162	Infection, finger	37
Eye strain	98	Infection, foot	24
Foreign body in arm.....	2	Infection, hand	13
Foreign body in ear.....	5	Infection, heel	6
Foreign body in eye.....	73	Infection, knee	22
Foreign body in finger.....	26	Infection, leg	23
Foreign body in foot.....	1	Infection, lip	1

Infection, neck	4	Scabies	7
Infection, toe	30	Shock	11
Influenza	235	Sinusitis	47
Insomnia	20	Sprain, abdomen	5
Iritis	1	Sprain, ankle	79
Jaundice	4	Sprain, arm	3
Laryngitis	102	Sprain, back	15
Lumbago	23	Strain, chest	5
Malaria	4	Sprain, groin	7
Menorrhagia	2	Sprain, finger	23
Mitral regurgitation	3	Sprain, foot	24
Mitral stenosis	3	Sprain, hand	13
Mumps	27	Sprain, hip	9
Myalgia, traumatic	32	Sprain, knee	37
Naso pharyngitis	394	Sprain, neck	6
Nephritis	6	Sprain, shoulder	25
Neuralgia, facial	50	Sprain, thumb	2
Neuralgia, intercostal	29	Sprain, toe	7
Neuritis	13	Sprain, wrist	24
Neuresthenia	23	Sputem analysis	40
Nevus pigmentasus	3	Stomatitis	17
No disease	102	Syphilis	3
Obesity	9	Somnambulism	1
Orchitis	1	Tachycardia	3
Otitis media, acute	18	Tenosynovitis	25
Paronychia	19	Tinea circinata	49
Pediculosis pubis	4	Tinea sycosis	1
Pharyngitis	438	Tonsillitis, acute	241
Phthisis	2	Tonsillitis, chronic	68
Pleurisy	16	Tortocollis	14
Pleurodynia	27	Tracheitis, involving trachea and large bronchi only)	308
Phlebitis	1	Ulcer	16
Polipi nasel	2	Urethritis specific	17
Prophylaxis smallpox	221	Urethritis nonspecific	6
Prophylaxis typhoid fever	86	Urticaria	23
Prophylaxis smallpox dressing ..	247	Varicose Veins	2
Psoriasis	3	Varicocle	3
Pyorrhea alveolar	8	Weak arches	17
Refractive error	18	Wounds, abraded	173
Rheumatism	29	Wounds, contused	146
Rhinitis, chronic	78	Wounds, incised	97
Scarlet fever	2	Wounds, lacerated	19
Scarlet fever, suspected	4		

H. SHINDLE WINGERT, M.D.,
Director Student Health Service.

REPORT OF THE DEPARTMENT OF PHYSICAL EDUCATION

PRESIDENT W. O. THOMPSON, *the Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the Annual Report of the Department of Physical Education for the year ending June 30, 1922.

INTRODUCTORY REMARKS

An elaborate statement of the aims and purposes—the objectives—of Physical Education is not to be attempted here. Some conclusions, however, admitting of strong support are presented. Physical training—long after the Greeks—was merely a matter of physical exercise. A development of strength—of beauty and perfection of form—of skill and grace of movement.

At a later date it was recognized that while health, strength, and beauty were chief aims—physical training connoted something in the way of mind training—a favorable condition, at least so far as health and power of mind were concerned—and that the benefits of exercise were not entirely physical.

We have clearly passed beyond this stage and physical training—or Physical Education—while still recognizing among its aims efficient functioning of the body, has now as its chief objectives organic, psychomotor, character, and mental development.

A committee made up of some of the foremost physical educators reporting last year to the Society of Directors of Physical Education in Colleges on the aims of Physical Education said:

If we conceive the perfecting of the individual in his social relations to be of greater importance than more purely personal values we may well begin our list of aims with certain qualities developed by appropriate group activities, particularly games and athletic sports, practiced under favorable conditions. It is through these agencies that the child and youth most readily and naturally acquire habits of obedience, subordination, self-sacrifice, co-operation and friendliness, loyalty, capacity for leadership, ability to lose without sulking and to win without boasting, a spirit of fair play, and all that is implied in the word sportsmanship.

President Thompson recently coined in my presence the term “moral vitamins.” To me the new physical education means supplying mental and moral vitamins. *In the field of education it is the greatest producer of morale.*

The thing that *I believe* has been said in such an excellent way by Joseph Lee that I wish to quote him: “I am a convinced believer in Physical Education, and especially in the proposition that it is in reality not physical education alone but mental and moral

education through physical exercise. I think that in speaking of a man's grasp of an idea or of his moral hold upon himself we are speaking not wholly in metaphor, but are expressing the literal fact that doing things with the body is a moral and intellectual experience and one through which the mind and character got their most fundamental growth."

I believe that largely we fail—when we do fail—because we in the physical education profession have not rated highly enough the importance of our work in the field of education. I feel morally certain that the rank and file of the teaching profession have scarcely begun to accord to physical education the importance here claimed; and until some such recognition is more generally conceded and support more generously given in the school program, physical education will not take the place it justly deserves.

DEPARTMENT ACTIVITIES

The activities of the Department, grouped under the following heads and reported below, have common objectives—the aims of physical education.

- I Required Work
 - a. Men
 - b. Women
- II Normal Courses
- III Intramural Athletics
- IV Intercollegiate Athletics

I. Required Work in Physical Education

a. Men's Division

Dr. John H. Nichols reports for the men's division as follows: "I shall attempt to summarize briefly the constructive accomplishments of the Department during the year leaving out as far as possible statistics and data that are available from other reports. The work may be discussed under the following heads:

1. Administration and office work.
2. Physical examinations, health advice, and emergency treatments.
3. Hygiene instruction.
4. Physical activities prescribed.
5. Department staff and Gymnasium aids.
6. Extension work.

1. Administration and Office Work—The volume of work in connection with the Department office has been doubled during the past two years by the addition of the hygiene course, necessitating separate record cards, enrollment cards, and grade cards for all men enrolled in this course. The grading of daily quiz papers, note books, and final examinations has enormously increased the office

work. The responsibility for all records, grades, and excuses has been centralized in the office of the Department Secretary, Mr. Billingsley. His efficiency and thoroughness is all that has made it possible to carry this load in the Department. The Registrar's office has stated on several occasions that the Department records and reports are in the best shape of any department on the campus. The entire Department staff has co-operated in connection with physical examinations, records, note books, examination papers, etc., at the rush periods of the year. All of this office work will be increased about one-third under the new Four-quarter Plan.

2. Physical Examinations—Each year the work in connection with the examinations has been improved and perfected. There are two factors that are exceedingly important in connection with these examinations. The first is their completion before any physical activities are indulged in (including the cane rush) to prevent serious injury to the individual who is not physically fit. The second factor is thoroughness and we have attempted not to sacrifice anything at this point for the sake of speed. The combining of these two has been made possible by division of labor among the physicians, by sufficient clerical assistance by scheduling 30 men every half hour so that there are no breaks, and by holding the examinations on the main floor of the Gymnasium. During the year some 2400 received physical examinations and more than 575 were referred to clinics and physicians for correction or treatment of special conditions. More than 2000 men called at the office for advice in regard to health problems and emergency treatments were given to 3120 men.

3. Hygiene Instruction.—This course has been required for the past years of all freshmen. The Department has attempted to present the material in such a way that it will actually carry over and have a part in shaping the health ideals and habits of the student. The effectiveness of the work has been considerably increased during the past year by the assistance of Dr. F. R. Castleman and during the second semester by Dr. J. W. Wilce. Daily written quizzes on assigned reading together with the use of illustrated material in the form of posters, charts, and panels added considerably to the effectiveness of the course. The work has become extremely heavy due to the use of the written-quiz method and the increasing size and number of the sections.

4. Physical Activities Prescribed—The regular classes were greatly overcrowded the first semester, but by assigning three and four instructors to each class it was possible to carry on the work more effectively than has been possible in the past. The fall pro-

gram was entirely out of doors and included track, modified football, soccer, cross-country, and outdoor baseball. With the beginning of the second semester a large number of men elected special activities. Boxing, wrestling, fencing, jiu jitsu, advanced gymnastics, and track were offered.

Three physical efficiency tests were given during the year. The first came at the beginning of the year to the men who received the "A" classification in their physical examinations; the second at the end of the first semester to all students in regular classes, and the third just before spring vacation to all those who had not previously made the "A" grade. The year's work was closed with the annual mass track and field meet in which every student competed. This year's prescribed work was more successful than any previous year, largely due to two factors: the increased staff making it possible to divide classes into small groups and the large number who were able to elect their activities. The elected activities are by far the most effective work conducted, due to the interest and enthusiasm which the men put into these special activities. Next year it is planned to allow all men to elect their activities except those who need special corrective work.

5. Department Staff—The Department staff has been taxed to the utmost this year to meet the demands of the work. All members have been teaching from 22 to 25 hours per week. It is increasingly clear that the Department must have not less than four full-time instructors—should have five. The three student assistants were of great value to the Department.

6. Extension Work—The Department is doing all that it can under present conditions to serve the State in physical education. The field is one which has scarcely been touched and one rich in opportunity for service. Members of the Department are constantly being called upon to speak before various organizations on physical education and athletics. Papers and addresses have been given at various National and State meetings. A physical education exhibit was prepared in connection with the State Educational Conference and was well received. Two articles were published this year in the *American Physical Education Review*.

Required Work—b. Women's Division

Miss Ethel C. Scofield, acting head of the Division, reported for the women. The report of the Department of Physical Education for women is a resume of the Department's work. The facilities, as is well known, have been quite inadequate and only through al-

most superhuman efforts on the part of the staff has it been possible to overcome in a measure the disadvantages.

What the Department has done is worthy of consideration, inasmuch as we have succeeded in arousing a real interest in physical education. The program has taken care of the student who is unable to do strenuous work, has created an interest in individual health and social hygiene, increased co-operation and loyalty, and raised standards of scholarship. Hygiene posters made by the freshman class in the Hygiene course have been exhibited at Columbia, Teachers' Association at Milwaukee, and the National Physical Education Association meeting. These posters are also being used by the Ohio State Board of Health.

Class figures on activities for the year are:

Tennis.....	995	Folk dancing.....	149
Archery.....	290	Track.....	189
Hockey.....	195	Hiking.....	693
Swimming.....	448	Gymnastics.....	1221
Games.....	133	Special.....	60
Dancing.....	200		

The work is divided according to season and an effort made to allow a choice of activity.

From September to January, in order to give the students further opportunity, the swimming pool and the Gymnasium were open every Wednesday evening for sports and swimming and the members of the Department were present at all times. During the year the following events were taken care of by the Women's Athletic Association with the support of the Department:

- Annual W. A. A. Frolic—entertaining freshman girls.
- Annual W. A. A. Circus.
- W. A. A. Christmas party for girls on the campus.
- Christmas Carols.
- Sale of Christmas seals on the campus for Rotary Club.
- Hockey tournament.
- Basketball tournament.
- Track Meet.
- Swimming Meet.
- Tennis Tournament.
- May-day Breakfast.
- W. A. A. Banquet.

The Department took care of special work for the entertainment of 300 girls of the Boys' and Girls' Clubs that visited the campus in the spring under the auspices of the Extension Depart-

ment. The following events were participated in by the girls of the Department as a department activity:

Fog Raiser.
Spring Bat.
Military Circus.
Italian Club.

The Department cared for the recreation program at a meeting of all the county agents under the Extension Department. A Red Cross Life Saving Corps was organized and about 50 girls passed the Red Cross life-saving test.

The seniors of the past year have been the biggest problem for several reasons. They started their work in 1917 or 1918. At that time no regular work was given because of wartime conditions—Aviation Corps and student training occupying the Gymnasium—so that credit was received for a physical examination, certain lectures, and hikes. The records therefore were not complete in many instances.

In 1920 the work of the Department was given positive credit and these seniors should have been through with the required work. Much effort was made to make sure that these classes were all checked on the required work, but it is not strange that there were many irregular records. In large part, the difficulties and misunderstandings as to records will disappear with this present year. A larger staff, less congested quarters, smaller classes—all coming with use of Pomerene Hall—will place physical education for women on a very different basis.

Dr. Ada V. Wright, Medical Examiner for Women, submitted an excellent statistical report. She examined 1191 women and attended at all times to consultation and advice for the women. Although on part-time service, she has rendered more nearly full time and has done splendid work for the Department.

II. *Normal Work—Teacher-training Courses*

This phase of the department work is of importance first as offering instruction in courses for which there is much demand—course enrollment of 492 the present summer—and second, as performing a real service to the State in meeting a distinct need of the public schools.

This work was started in 1913. The effort made is to provide a sound fundamental training for physical education and athletic specialists. Our field is to supply the needs of the secondary schools of Ohio. There is no need to minimize the importance in any way of coaching the athletic teams. It had better be emphasized and

more care taken in the selection of teachers with real training and sound character. What really needs emphasis, however, is the provision of physical-education opportunity and training for all students. Representative teams in the major sports support themselves and are too often left to run themselves—so far as school boards are concerned. To provide real opportunity in physical education for the “scrubs” requires some interest and thought that must be translated into action by way of moral and financial support.

The courses now in the curriculum are the result of much careful study on the part of the entire staff—men and women. There are at present offered 10 elective courses open to both men and women; seven courses open to men only and six courses open to women only. Nineteen of these elective courses and five required courses are being offered in the present Summer Quarter—carried by a staff of three women and two men.

The addition of four or five courses as electives will provide a major in physical education. A preliminary draft of this has been presented. It will be fully worked out and presented this fall. Dr. J. H. Nichols, in his report to me, states: “The carrying of this program through to a successful conclusion is the most important constructive piece of work before the Department at the present time and demands the whole-hearted co-operation of every member of the staff.”

III. *Intramural Athletics*

Mr. Grant P. Ward, Director of Intramural Sports, has presented a most excellent detailed report of the intramural activities for the year. His report is, in part, as follows:

Figures taken from our records show 10,595 took part in 18 different branches of sport in the year 1921-1922, which was an increase of 4480 over the number of participants for 1920-1921. This increase alone represents more than any Western Conference school enrolled in 1920-1921 and is larger than the majority of them handled during the past year.

Under an ideal system each student should take part in at least one competitive game during the fall, winter, and spring seasons; and until the enrollment in all sports approximates 20,000 the height of beneficial results will not have been reached. Greatly increased facilities will be needed before this status is attained.

Of competitive sports proper, basketball leads the field with 1489 men playing on 162 teams. Baseball is second with 937 men and 72 teams.

Sports this year were divided into major, minor, and individual. Under major are found indoor baseball, basketball, track, baseball, relay carnival, and playground ball. Minor sports include soccer, cross-country, bowling, foul-shooting, horseshoe pitching, tennis, golf, and swimming. Those activities open to individuals are wrestling, boxing, fencing, as well as individual tournaments in tennis, golf, and foul-shooting.

Although Ohio State leads all other schools in the number taking part in intramural athletics, they do not offer as large a program of sports as Minnesota, Wisconsin, Illinois, or Michigan. Wisconsin offers 25 intramural activities, Minnesota 22, Michigan 20, and Illinois 19. A meeting of the Western Conference Intramural Directors was held last winter in Chicago. Ohio State is the only school which has inaugurated and successfully carried out a workable system of accurate recording of participation.

Attention may be called to the fact that the Athletic Board has financed entirely the Intramural Program. The University should support this phase of the physical-education work and a more liberal budget must be granted.

IV. *Intercollegiate Athletics*

Intercollegiate athletics under the control of the Athletic Board have had another successful year. The entire expense of the Stadium campaign has been borne by athletic receipts. Eventually this will be the source of great benefit to the student body, as a whole, in the way of supplying wonderful facilities for intramural athletic activities.

Intercollegiate sport is the target for much unfavorable criticism. There have been abuses in many places—some of them are likely to continue—and many things may be better handled and controlled. In the main, the Western Intercollegiate Conference is 10 years ahead of any similar group of colleges in the administration of intercollegiate athletics. The latest move by the Conference—this time fostered by the Athletic Directors themselves—is the appointment of Mr. John L. Griffith to make a thorough study of the athletic problems. Mr. Griffith is a splendid type of man who was at one time Director of Athletics, Dean of Men, and Acting President of Drake University. He enters on this work as a large and important piece of research work—to aid in the study and enforcement of amateur eligibility rules, promulgation of the ideas and ideals of amateurism, improvement of athletic relations between colleges, and helping to set forth the truly educational value of athletics.

PURPOSES OF INTERCOLLEGIATE ATHLETICS

Dr. John W. Wilce recently addressed a large group of Western Conference college alumni on the subject, "Purposes of Intercollegiate Athletics."

As placing before you the platform on which we stand, I wish to include here some portions of Dr. Wilce's talk:

"The purpose of intercollegiate athletics will always be divided into professional vs. the educational. Most of the present-day abuses which are universally decried in educational circles will be found to result from the professional purposes. The purely educational purposes are less tangible and are naturally questioned by many whose interest is purely material.

"A practical football coach who tries to maintain educational standards in a field bombarded with other incentives and filled with supposedly similar systems of a semiprofessional nature, may be allowed to submit a platform of progressive purposes for intercollegiate athletics:

"1. To round out the content and appeal of modern higher education.

"2. To serve as the high point of the pyramid of broadly conceived universal Physical Education in degree of intensity, skill, specialization, enthusiasm, and punch.

"3. To give educational expression to physical and moral vigor and to encourage in the more orthodox educational system elements of hardihood, sturdiness, virility, fighting impulse, and whole-souled, whole-hearted effort to any given end. Definite united attempt at transfer of idea to other phases of education and human endeavor should be protected.

"4. To conserve physical welfare, social and moral advantage, and development of participants.

"5. To carry to the alumnus and general public increasingly educational viewpoint. To bring back to the institution a degree of the practical out-in-the-world viewpoint to mutual advantage. To act as a continued educational stimulus to the alumni and public.

"6. To stimulate interest of participants and supporters in increased intellectual life and refinement through field of greatest appeal.

"7. To teach and illustrate sportsmanship, principles and action, and the amateur spirit.

"8. To develop that wonderful thing known as morale, in groups, institutions, and sections to some given progressive educational end."

In developing the eighth and last of these articles in what we may truly say is the platform of this Department, Dr. Wilce said:

"It is universal testimony that the American Army in France gave an outstanding illustration of the best use of technical knowledge through the presence of the highest degree of morale—spirit, fearlessness, and enthusiasm. It is not necessary for men in athletics to try to connect up the athletic spirit with this thing. Army officers of all rank have on many occasions ascribed this difference between Americans and the other nations to this element in their training and national character. Intercollegiate athletics reflects the

strenuosity, virility, intensity, and tendency to specialization of the American people as represented through some of their best elements.

"We do not want to avoid the things that reflect National spirit—enthusiasms—but we do want to rid them of abuses and control them to the best end. The development of the morals of any given group or institution in rallying around a truly representative athletic team with a big incentive to thwart is unquestioned and remarkable. Intercollegiate athletics furnishes a rallying point for the spirit of American groups, institutions, and sections.

"President Thompson has said that intercollegiate athletics contain more dynamite than any other element in education. The purpose of an educational athletic system should be to use this dynamite to the best educational interest."

CONCLUSION

Briefly stated, the needs and, therefore the aims, of this Department are:

1. A more adequate staff for the work in physical education for men. Dr. Nichols should have two additional instructors. The coming year for the first time the women will have a fairly adequate staff and acceptable conditions under which to work. The addition, next year, of a full-time examining physician for women is needed.

2. The successful operation of a major in Physical Education will require the bringing into the Department a strong lecturer on theoretical physical education subjects.

3. Intramural athletics merit the financial support of the University. A larger staff and a budget for operation needs to be provided.

4. Intercollegiate activities are in no need of special encouragement. Neither do they merit suppression. They do need wise control and careful direction to preserve their true educational values.

Respectfully submitted,

L. W. ST. JOHN.

ANNUAL MEDICAL REPORT

WOMEN'S MEDICAL EXAMINER, SEPT. 1921 TO JUNE 1922

Number of Women Examined, 1191

Average age of women.....	17.9	years
Average weight of women.....	116	lbs.
Average height of women.....	63	inches

Physical Classification of Women

	Number	Percent
Class A+.....	6	0.05
Class A	348	29.2
Class B	647	54.3
Class C	182	15.3
Class D	8	.06
<i>Eyes</i>		
Number of women wearing glasses.....	361	32.
Number of women whose eyes require attention	62	5.6
<i>Nose</i>		
Deviated septums.....	346	20.9
Hypertrophied turbinated	69	5.9
Adenoids removed	97	8.7
<i>Tonsils</i>		
Tonsils removed	229	20.8
Tonsils requiring attention	59	5.3
<i>Thyroid</i>		
Hyperplasia of thyroid gland.....	379	31.
Thyroid glands removed.....	3	.002
<i>Teeth</i>		
Number of women having excellent teeth...	47	4.1
Number of women having good teeth.....	1099	92.3
Number of women having poor teeth.....	45	3.7
<i>Heart</i>		
Number of women's hearts over 100 beats per minute	202	
Pulse rate before exercise, per quarter....	25	
Pulse rate after exercise, per quarter....	28	
Mitral insufficiency	26	.013
Aortic insufficiency	1	.0019
Mitral stenosis	2	.0016
Functional murmurs	3	.0025
<i>Lungs</i>		
Normal	1089	91.4
Fair	80	6.7
Poor	18	1.5
Rales	4	.3

Menstruation

Regular	973	81.8
Irregular	218	18.2
Number of days menstruation lasts		
3 to 5 days.....	992	83.6
1 to 7 days.....	189	15.3
1 to 2 days.....	10	0.9
Number of girls compelled to remain in bed some part of menstrual period...	60	5.3
Girls suffering from chronic constipation	62	5.
Girls susceptible to severe and continual colds	110	9.2

ADA V. WRIGHT, M.D.

ANNUAL REPORT OHIO STATE UNIVERSITY Y. M. C. A.
SECRETARIES TO THE BOARD OF ADVISORS,
JUNE 1, 1921, to JUNE 1, 1922

For the University Y. M. C. A. the year which has just passed has been one of steady progress. We believe that the Association has never been in a more advantageous position than it now occupies. While this has been a difficult year financially and we are relatively in the same situation that we were two years ago in that respect, we have held our own this year and with improved business conditions generally the coming year should see us firmly established on a solid financial footing.

To sum up the principal events of the year we should begin with the Lake Geneva Conference. Thirteen men including the Secretaries and Rev. Mr. Randolph attended a conference which has been an inspiration to us throughout our year's work, as well as a training school of very high value in methods of work.

The usual summer-session activity was carried on, most of the work coming within the first three weeks in securing rooms, employment, and like service together with editing the Handbook. During August we sent 900 letters of welcome to incoming freshmen and half that number to upperclassmen who had agreed before leaving school to act as their "big brothers." Five hundred letters were sent to the newspapers of Ohio describing our work here with particular reference to the opening week's activities which were held in co-operation with the Student Council and the Boost Ohio Committee. We had the largest attendance at our opening meeting that we have ever had and the spirit throughout the week was excellent. Our edition of 4000 Handbooks was exhausted by December 1.

Our finance and membership campaign, held October 10-14 resulted in signing up 1500 men who pledged \$1875 to our work, besides which the faculty contributed \$1222, one-third of this amount to be given to the Y. W. C. A.—\$1450 being the highest mark they have ever reached. This was a drop of 250 in membership and \$325 in student pledges, but measures very favorably with the general experience throughout the student associations, extreme cases like the University of Chicago dropping in student contributions from \$1800 to a little more than \$500.

To offset this we obtained \$50 more from our Handbook advertising than ever before, and our contributions from parents, a field

which until a year ago had never been touched brought us \$422.50. We now have a system carefully worked out which will increase this amount from year to year as shown by our increase of over 30 per cent from the first year we tried it.

We arranged for five parties to be held for "socially reticent" freshmen in the homes of North End church people shortly after the opening of school. These gatherings reached a group of men and women whose acquaintances were very few in number. One of the most enjoyable social events our social committee has ever promoted was the "Warmer," held at the Armory on October 14 with 1500 students in attendance.

The Social Service Committee has had 12 men at work at the various social settlements during the year, and has worked out a plan for next year whereby a large increase in this number of men will be made with a corresponding decrease in the actual number of hours required of each man.

The Freshman Cabinet, which was organized during October, again proved its value by assisting the upperclass cabinet in every department and finally by producing 15 men of high caliber for our next year's upperclass cabinet. We sometimes wonder on looking over years past how we overlooked such a valuable addition to our work as a wide-awake freshman cabinet can be.

The Juvenile Court Committee has used 35 men in taking care of their wards and Probation Officer Williams has again congratulated us on our work here, saying that our men have stayed on the job, and that they have accomplished a work of no small value to the community.

The Penitentiary Committee has had charge of six chapel services using 31 University people, besides making a trip through the University district with a truck to collect old books and magazines for the prisoners.

Nineteen men have been used on gospel teams during the past year and of course, by being so used have been privileged to have an unusual religious experience. Mr. Hoyt has made this his chief endeavor as far as cabinet duties are concerned and has handled it well.

Rev. Mr. Randolph has led two Bible discussion groups which met regularly in our office and by this means we have been able to reach about 25 students who have no social grouping through which they could otherwise be reached. We have already selected Rev. Mr. Randolph as the leader of our normal-training class for next year when we expect to use student leadership as far as possible.

The Social Committee has given two parties for "stay-over" students during vacation periods and has handled three Y.M.-Y.W. Cabinet parties. The annual Christmas-tree celebration, when with the co-operation of the Y. W. C. A., 175 children from the Godman Guild were entertained as well as the Y.M.-Y.W. "Mixer" fell to the share of this committee. The "Mixer" provided an evening of genuine fun for over 2500 students besides assisting us financially to the amount of \$200.

The Foreign Student Committee held a party for the foreign students during the Thanksgiving vacation, and secured invitations for 28 of them into the homes of church people during the Christmas vacation. The secretary has been elected as a member of the Board of Directors of the Cosmopolitan Club, and having had 30 of these men in his home in twos and threes during the year feels that he has their confidence to a degree that only comes through long acquaintance. At the Chamber of Commerce dinner for foreign students on Friday, May 26, the Secretary was given an opportunity to speak for them.

Special committees handled the series of religious meetings led by Dr. E. F. Tittle and those by President Thompson. Thirty-five hundred students attended these meetings which were seven in number and of the type which leads to the most permanent results, a type which causes the listener to apply the lesson to his own case and act, rather than be wrought up emotionally and then later react unfavorably.

Mr. Hoyt has made a strenuous effort during the year to keep the employment supply up to the demand and has succeeded to an unexpected degree. With a lower rate per hour than last year he has given out jobs worth \$21,000, within \$7000 of last year's total, and this in spite of unfavorable industrial conditions. We are already beginning to feel the upward trend of the times and will be able to place quite a number of men in positions for the summer.

The secretary has given free notorial service to 875 men, mostly in connection with the soldier bonus, though he has handled many income tax blanks, etc., for members of the faculty.

Our foreign-work campaign, largely due to the presence of Huntley Dupre early in the year and Dr. Jaroslav Kose later, was the most successful we have ever had, and we have pledged this year \$3500 for the work in Prague, \$2100 of which was pledged by men students. The two previous years saw a total of \$3900 sent over, making an even \$6000 in three years. The foreign work has strengthened our whole program and offers a pleasing contrast to

the previous years when our foreign-work contribution was a very small sum.

The Allen H. Hoskins Memorial Foundation has been approved by the President and will begin to function before commencement.

Some statistics will be of interest here.

225 different men were used in the membership and foreign-work campaigns.

44 men on freshman and upperclass cabinets.

35 men on Juvenile Court Committee.

12 men on Social Service Committee.

30 men on Social Committee.

31 men on Penitentiary Committee.

18 men on Gospel Teams.

8 men on Office Committee.

40 men on Special Committees.

450 Big Brothers

making a total of 894 men. Many of these men have done more than one class of work, hence there are many duplications in this list, but these men have actually worked in some capacity for the Association, and the 2200 attending religious meetings, the 3200 attending social events, and other activities which require no preparation on their part are not counted.

The Secretary has maintained all those contracts which he has felt to be of value to him in endeavoring to be of the most service to the Association. He is a member of the Boost Ohio Committee, an officer of University Post of the American Legion, a director of the Cosmopolitan Club and has recently been elected an adviser to Tau Lambda, Methodist Men's fraternity. This gives him contacts with the student governing body, ex-service men, foreign students, and the men of his own church in a direct way.

In conclusion may I say that if this report shows any facts in which we may take pride it is due to the fact that we have had a loyal and devoted cabinet working first under the leadership of Paul Selby and later under Charles Vaughn. They have never hesitated at any undertaking which they felt would help to "make Jesus and His ideals real in the lives of men in the University and throughout the world," and I cannot praise them too highly.

In the office we have an efficient and interested assistant in the person of Miss Drenan, and Mr. Hoyt has done far more than I have ever felt that we should ask of him. I regard him at the present time as superior in capabilities to any college secretaries of Ohio with the exception of one, who has had many years of experience.

May I also thank you as members of the Board for your loyal

co-operation. Yours is a thankless task, but it must be a genuine satisfaction to you to know that your efforts make possible the continuance of a work which we trust will hasten to some slight degree the coming of "His kingdom on this earth."

Respectfully submitted,

JOSEPH A. PARK.

SUMMARY OF THE FINANCIAL STATEMENT

FOR THE YEAR ENDING JUNE 30, 1922

(A complete detailed financial report for the fiscal year ended June 30, 1922, is printed in separate form and may be had upon application.)

COLUMBUS, OHIO

The financial statement presented herein is part of the Annual Report of the Board of Trustees to the Governor of Ohio, which shows the financial condition of The Ohio State University for the fiscal year ended June 30, 1922.

CARL E. STEEB,
Secretary

Consolidated Statement

Schedule A

INCOME AND EXPENDITURES

Cash Balance July 1, 1921.....		\$ 179,586.75
Total Income for year, <i>Schedule B</i>	\$ 4,017,839.13	
Less funds paid to State Treasurer and not available for the University.....	1,862.80	
Total Available Income, <i>Schedule B</i>	\$ 4,015,976.33	
Total Expenditures for year, <i>Schedule C</i>	4,036,412.90	
Deficit for year.....		\$ 20,436.57
Cash Balance June 30, 1922, <i>Schedule D</i>		\$ 159,150.18

ASSETS AND LIABILITIES

Current Assets June 30, 1922, <i>Schedules D and F</i>	\$ 1,117,767.69	
Investment Assets June 30, 1922, <i>Schedules D and F</i>	1,062,217.60	
Educational Plant:		
Value of lands, buildings, and equipment, <i>Schedules D and F</i>	8,124,062.33	
Contingent Liabilities June 30, 1922, <i>Schedule F</i>		800,748.04
Investment Liabilities June 30, 1922, <i>Schedule F</i>		1,062,217.60
Capital Account, <i>Schedule F</i>		8,441,081.98
	\$10,304,047.62	\$10,304,047.62

INCOME

Description	Items	Total
INCOME FROM STUDENTS:		
Tuition and incidental fees.....	\$ 329,770.50	
Special fees, degrees, etc.....	8,736.22	
Locker rent	8,701.00	
Deferred fees paid by Federal Board.....	5,154.25	\$ 352,361.97
INCOME FROM ENDOWMENTS:		
For general purposes, <i>Schedule G</i>	13,045.88	
For designated purposes, <i>Schedule H</i>	4,673.11	17,718.99
FEDERAL AID:		
Land-grant Act of July 2, 1862, <i>Schedule G</i>	31,450.88	
Land Grant—Virginia Military Lands— <i>Schedule G</i>	13,517.32	
Additional Aid—Acts of August 30, 1890, and March 4, 1907	50,000.00	
Agricultural Extension Work—Acts of May 8, 1914, and		
July 24, 1919.....	216,518.73	311,486.65
STATE AID:		
Current Expenses, <i>Schedule I</i>	1,813,563.55	
Capital Improvements, <i>Schedule I</i>	637,618.01	
Agricultural Extension, <i>Schedule I</i>	190,473.93	2,641,655.49
GIFTS FOR CURRENT EXPENSES:		
For designated purposes, <i>Schedule B-3</i>	12,821.19	12,821.19
INCOME FROM OTHER SOURCES:		
Architecture-Photo	1,207.03	
Boys' and Girls' Club Work.....	8,378.23	
Commutation of Uniforms.....	43,910.50	
County Agents' Funds from Counties.....	131,658.78	
Dental Clinic	9,263.35	
Engineering Experiment Station.....	815.70	
Farm Bureau Funds.....	3,062.11	
Farm Rotary	41,186.26	
Farmers' Institute Funds from Counties.....	15,225.00	
Federal Board of Tuition Refunds.....	914.00	
Guidance School	3,038.15	
Homeopathic Clinic	34,854.97	
Interest on Gift of Dr. Mendenhall.....	50.62	
Lantern	12,769.07	
Laundry	733.65	
*Miscellaneous Sales	1,117.01	
Ohio Biological Survey.....	27.50	
*Rent	745.79	
State Board of Education (Smith-Hughes).....	42,494.36	
Veterinary Clinic	8,284.44	359,736.52
DORMITORIES AND DINING HALLS:		
Home Economics Cafeteria.....	17,003.12	
Oxley Hall	29,398.59	
South Hall	1,310.10	47,711.81
COMMERCIAL ACCOUNTS:		
University Press	36,800.67	
Warehouse	237,545.84	274,346.51
Total Income, <i>Schedule A</i>		\$4,017,839.13
Less funds (*) paid to State Treasurer and not available		
for the University, <i>Schedule A</i>		1,862.80
Total Available Income, <i>Schedule A</i>		\$4,015,976.33

Schedule C

CLASSIFIED EXPENDITURES

	Items	Total
EXPENSES:		
Salaries	\$2,236,980.52	
Advertising	546.00	
Boys' and Girls' Club Work	8,566.59	
Coal and gas	80,261.09	
Employees and extra labor	92,078.75	
Feed for livestock	11,056.67	
Field work, Agricultural Extension, including county agents	106,843.65	
Food supplies	17,833.96	
Freight and cartage	7,419.43	
Hospitals—use of wards and heating	18,149.94	
Incidentals	43,811.47	
Laboratory and educational supplies	67,605.64	
Materials and general supplies	79,811.12	
Printing	29,741.93	
Refunds	42,455.56	
Repairs to equipment	8,893.23	
Scholarships and student aid	5,551.50	
Stationery and office supplies, including postage	34,897.84	
Telephone and telegraph	8,883.64	
Traveling expenses	8,668.08	
Water	14,506.20	
Total Expenditures, Schedules C-1 and C-2		\$2,924,562.81
EQUIPMENT:		
Apparatus	\$ 52,328.15	
Books	27,526.86	
Furniture and fixtures	24,345.28	
Livestock	9,130.69	
Machinery, tools, and appliances	17,967.01	
Total Equipment, Schedules C-1 and C-3		\$ 131,297.99
LANDS		
NEW BUILDINGS		
ADDITIONS TO BUILDINGS		
IMPROVEMENTS		
Total, Schedules C-1 and C-4		\$ 642,526.81
DORMITORIES AND DINING HALLS:		
Home Economics Cafeteria	\$ 17,508.81	
Oxley Hall, Schedule J	28,941.63	
South Hall	1,500.50	
Total Dormitories and Dining Halls		\$ 47,950.94
COMMERCIAL:		
University Press	\$ 37,917.98	
Warehouse, Schedule K	252,156.87	
Total Commercial		\$ 290,074.85
Total Expenditures, Schedules A and C-1		\$4,036,412.90

* Amount paid to students for labor \$62,403.63.

BALANCE SHEET JUNE 30, 1922

ASSETS

Description	Items	Total
CURRENT ASSETS:		
Cash in bank and on hand for current expenses.....	\$ 159,150.18	
Deposits	454.00	
Auditor of State—Special State Appropriations.....	800,748.04	
Warehouse (Supplies per inventory).....	157,415.47	
Total Current Assets.....		\$1,117,767.69
INVESTMENT ASSETS:		
State Treasurer (irreducible debt of the State).....	1,052,307.74	
University Treasurer	9,909.86	
Total Investment Assets.....		1,062,217.60
EDUCATIONAL PLANT:		
Lands, Buildings, and Equipment.....		8,124,062.33
Total Assets		\$10,304,047.62

LIABILITIES

Description	Items	Total
CURRENT LIABILITIES:		
Special State Appropriations.....		\$ 800,748.04
ENDOWMENT FUNDS:		
Funds for General Purposes, Invested.....	\$ 967,096.67	
Funds for Special Purposes, Invested.....	95,120.93	
Total Endowment Funds.....		1,062,217.60
CAPITAL ACCOUNT:		
Capital Account		8,441,081.98
Total Liabilities		\$10,304,047.62

GIFTS FOR GENERAL AND DESIGNATED PURPOSES

The following items are turned into the State Treasury to the credit of Rotary funds for use by the University.

Name and Description	Amount
THE BONNEY-FLOYD COMPANY.....	\$ 415.29
A gift for the purchase of a Hardinge Ball Mill for the Department of Metallurgy	
CLASS OF 1921.....	1,788.00
A gift for the erection of a flag pole on the campus.	
HOWARD PENDLETON CONVERSE.....	1,000.00
A gift for the purchase of books on Chemistry.	
E. I. DU PONT DE NEMOURS COMPANY.....	750.00
A gift for the support of a fellowship in the Department of Chemistry.	
DR. T. C. MENDENHALL.....	500.00
A gift for the purchase of the die for the Joseph Sullivant Medal.	
GRASSELLI CHEMICAL COMPANY.....	750.00
A gift for the support of a fellowship in the Department of Chemistry.	
CHARLES F. KETTERING.....	4,017.90
A gift for Homeopathic Research.	
EDWARD ORTON, JR.....	1,000.00
A gift for the purchase of books.	
SOUTHERN OHIO COAL EXCHANGE.....	2,100.00
A gift for the operation of the gas retort.	
OHIO GAS AND OIL MEN'S ASSOCIATION.....	500.00
A gift for the operation of the gas retort.	
Total, Schedule B.....	\$12,821.19

GIFTS FOR ENDOWMENT PURPOSES

Name and Description	Amount
PROFESSOR A. R. CHANDLER.....	\$ 100.00
A gift to establish the William E. Bingham Memorial Fund.	

APPENDIX I

BOARD OF TRUSTEES—1921-1922

	Date Original Appointment	Term Expires
CHARLES F. KETTERING, Dayton.....	March 21, 1917	May 13, 1923
LAWRENCE EVERETTE LAYBOURNE, Springfield	May 14, 1921	May 13, 1924
OSCAR E. BRADFUTE, Xenia.....	August 21, 1905	May 13, 1925
THOMAS C. MENDENHALL, Ravenna.....	June 16, 1919	May 13, 1926
BENJAMIN F. McCANN, Dayton.....	May 13, 1913	May 13, 1927
JOHN F. CUNNINGHAM, Cleveland.....	December 22, 1914	May 13, 1928
JOHN KAISER, Marietta.....	February 25, 1915	May 13, 1929

OFFICERS OF THE BOARD

JOHN KAISER.....	Chairman
THOMAS C. MENDENHALL.....	Vice-Chairman
CARL E. STEEB.....	Secretary and Business Manager
JULIUS F. STONE.....	Treasurer

APPENDIX II

ADMINISTRATIVE OFFICERS

For the Year Ending June 30, 1922

WILLIAM OXLEY THOMPSON, D.D., LL.D.....	President
Office—University Hall, 99312; N. 476	
Residence—University Grounds, 2056	
CARL E. STEEB, B.Ph.....	Secretary of the Board of Trustees and Business Manager
Office—University Hall (East End), 99332; N. 32	
Residence—1956 Iuka Avenue, 5835	
EDITH D. COCKINS, B.A.....	Registrar, University Editor, and Secretary of the Faculty
Office—101 University Hall, 99314	
Residence—1348 Neil Avenue, 16310	
BLAND L. STRADLEY, M.A.....	University Examiner
Office—107 University Hall, 99353; N. 939	
Residence—318 West Seventh Avenue, N. 10004	
ELISABETH CONRAD, M.A. Ph.D.....	Dean of Women
Office—Campbell Hall, 99367	
Residence—1981 Indianola Avenue	
KATHERINE A. VOGEL.....	Executive Clerk
Office—University Hall, 99312; N. 476	
Residence—209 South Monroe Avenue, E. 2356	
RAY M. ROYER.....	Purchasing Agent
Office—University Hall (East End), 99374; N. 3222	
Residence—1828 Arlington Avenue, H. 3184	
FRED E. JONES.....	Receiving Clerk
Office—Stores and Receiving Department, 99354; N. 3813	
Residence—255 Oakland Park Avenue, N. 7246	
CHARLES A. KUNTZ.....	Comptroller
Office—University Hall (East End), 99332; N. 32	
Residence—165 Tulane Road, N. 5118	
FLORIS D. HANE.....	Cashier
Office—University Hall (East End), 99332; N. 32	
Residence—1755 North Fourth Street, 11954	

- WILLIAM C. McCracken *Superintendent of Operation and Maintenance*
Office—Service Building, 99311; N. 718
Residence—8 West Woodruff Avenue, 11823
- JOSEPH N. BRADFORD *University Architect*
Office—Brown Hall, 99361
Residence—55 East Oakland Avenue, 14844
- JOSEPHINE MATTHEWS, B.Sc. (Dom. Sci.) . . . *House Superintendent—Oxley Hall*
Office and Residence—Oxley Hall, 99352; N. 4146
- EDWARD S. DRAKE *Manager—Ohio Union*
Office and Residence—Ohio Union, 99357; N. 1002
Manager's private phone, 99359-2R

APPENDIX III

Which shows the number of professors, officers, teachers, and other employes, and the position and compensation of each, as required by Section 7947 of an Act passed May 29, 1915.

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
William Oxley Thompson	President	\$10,000.00
Alfred Vivian	Dean of the College of Agriculture	6,000.00
True G. Watson	Secretary of College and Assistant in Agriculture	2,400.00
Bernice E. Blue	Secretary to Dean	1,200.00
John F. Lyman	Professor of Agricultural Chemistry and Soils	4,500.00
Firman E. Bear	Professor of Agricultural Chemistry and Soils	4,500.00
Thomas G. Phillips	Assistant Professor of Agricultural Chemistry and Soils	2,750.00
Guy W. Conrey	Assistant Professor of Agricultural Chemistry and Soils	3,000.00
George McClure	Instructor in Agricultural Chemistry and Soils	2,400.00
Charles L. Thrash	Instructor in Agricultural Chemistry and Soils	2,400.00
Emory F. Almy	Instructor in Agricultural Chemistry and Soils	1,600.00
James R. Shepherd	Fertility Plot Assistant	1,400.00
Rachel Edgar	Instructor in Agricultural Chemistry and Soils	1,200.00
Carl P. Hinkle	Assistant in Agricultural Chemistry and Soils	900.00
Hoylande D. Young	Student Assistant in Agricultural Chemistry and Soils	No salary
W. F. Stewart	Professor in Agricultural Education	3,000.00
F. W. Ives	Professor in Agricultural Engineering	3,750.00
G. W. McCuen	Professor in Agricultural Engineering	3,600.00
P. B. Potter	Assistant Professor in Agricultural Engineering	3,300.00
R. R. Thompson	Assistant Professor in Agricultural Engineering	2,700.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
J. T. Miller	Mechanic in Agricultural Engineering.	1,400.00
*R. A. Bowers	Mechanic in Agricultural Engineering.	805.00
*Benjamin P. Hess	Assistant in Agricultural Engineering	250.00
*Kenneth C. Sonner	Assistant in Agricultural Engineering	60.00
*Israel P. Blauser	Assistant in Agricultural Engineering	200.00
*Virgil Overholt	Assistant Professor in Agricultural Engineering	1,100.00
Carl W. Gay	Professor and Head of Animal Husbandry	6,000.00
C. S. Plumb	Professor of Animal Husbandry	4,000.00
D. J. Kays	Professor of Animal Husbandry	3,600.00
J. S. Coffey	Professor of Animal Husbandry	3,500.00
C. T. Conklin	Assistant Professor of Animal Husbandry	3,500.00
D. M. Fyffe	Superintendent of Live Stock	1,800.00
Robert Watson	Groom in Animal Husbandry.....	1,440.00
*William Jacobs	Teamster in Animal Husbandry.....	760.00
L. H. Myers	Laborer in Animal Husbandry	960.00
George Taylor	Beef Cattle Herdsman in Animal Husbandry	1,260.00
Cecil Bayes	Beef Cattle Herdsman in Animal Husbandry	1,410.00
C. E. Wilson	Assistant, Cattle Herdsman in Animal Husbandry	960.00
Paul Jackson	Dairy Cattle Herdsman in Animal Husbandry	1,440.00
*L. G. Souders	Assistant Herdsman in Animal Husbandry	360.00
William Franklin	Shepherd in Animal Husbandry	1,440.00
Wiliam Kloepper	Assistant Shepherd in Animal Husbandry	900.00
J. T. Laws	Assistant Swine Herdsman in Animal Husbandry	1,080.00
William Whitacre	Pavilion Groom in Animal Husbandry	960.00
*L. E. Swanson	Laborer in Animal Husbandry	136.00
*Ray Garrett	Assistant Herdsman in Animal Husbandry	720.00
*P. C. Thomssen	Swine Herdsman in Animal Husbandry	300.00
*Judson Solomon	Swine Herdsman in Animal Husbandry	500.00
*Lon Bloomer	Teamster in Animal Husbandry	320.00
*Bruce Kester	Laborer in Animal Husbandry	102.00
E. N. Transeau	Professor and Head of Botany	5,000.00
J. H. Schaffner	Professor of Botany	3,500.00
W. G. Stover	Assistant Professor of Botany.....	3,000.00
H. C. Sampson	Assistant Professor of Botany.....	3,000.00
A. E. Waller	Assistant Professor of Botany	3,000.00
L. H. Tiffany	Instructor in Botany	1,500.00
J. D. Sayre	Instructor in Botany	1,500.00
E. L. Stover	Instructor in Botany	1,000.00
J. S. Crabb	Assistant—Greenhouse	1,200.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Donald B. Anderson	Graduate Assistant in Botany	500.00
Lois Lampe	Graduate Assistant in Botany	500.00
Sylvester S. Humphrey ...	Graduate Assistant in Botany	500.00
Raymond A. Dobbins	Graduate Assistant in Botany	500.00
Mary E. Wurdack	Student Assistant in Botany	300.00
Ruth L. White	Student Assistant in Botany	300.00
Bernard S. Myer	Student Assistant in Botany	300.00
Harmon A. Runnells	Student Assistant in Botany	300.00
Oscar Erf	Professor of Dairying	4,500.00
R. B. Stoltz	Assistant Professor of Dairying	3,000.00
H. D. Drain	Assistant Professor of Dairying	2,400.00
D. H. Kochheiser	Instructor in Dairying	2,100.00
A. L. Bates	Driver in the Department of Dairying	1,080.00
Jay B. Park	Professor of Farm Crops	4,000.00
Charles J. Willard	Assistant Professor of Farm Crops ...	2,700.00
C. G. Williams	Profesor of Farm Crops	No salary
Harold L. Borst	Instructor in Farm Crops	1,800.00
Ralph Livingston	Assistant in Farm Crops	1,200.00
John S. Cutler	Assistant in Farm Crops	900.00
A. E. Smith	Farm Foreman in Farm Operations..	2,000.00
Charles Pugh	Head Teamster in Farm Operations...	1,080.00
B. L. Johnson	Teamster in Farm Operations	1,080.00
B. E. Stahl	Teamster in Farm Operations	1,080.00
Marion Peck	Teamster in Farm Operations	1,080.00
Charles Carter	Teamster in Farm Operations	1,080.00
John S. Long	Teamster in Farm Operations	1,080.00
J. M. Brooks	Teamster in Farm Operations	1,080.00
*Fred Kinney	Teamster in Farm Operations	810.00
John De Witt	Mechanic in Farm Operations	1,500.00
*Joseph Miller	Teamster in Farm Operations	720.00
*E. J. Day	Teamster in Farm Operations.....	349.61
*Ira Blanchard	Teamster in Farm Operations.....	225.00
Faith R. Lanman	Professor and Head of Home Economics	4,000.00
Grace G. Walker	Professor of Home Economics	3,600.00
Maude G. Adams	Professor of Home Economics	1,800.00
Elizabeth Shelow	Professor of Home Economics	3,000.00
June Findley	Assistant Professor of Home Economics	2,500.00
Lelia McGuire	Instructor in Home Economics	2,000.00
Alice Donnelly	Instructor in Home Economics	2,200.00
Katherine Bazole	Instructor in Home Economics	1,250.00
Elsie Steiger	Instructor in Home Economics	1,500.00
*Josephine Hamblin	Instructor in Home Econmics	791.65
Laura G. McGill.....	Assistant Professor in Home Eco- nomics	2,500.00
Laurentza Schantz-Hansen	Instructor in Home Economics	1,800.00
Nellie M. Beck	Assistant in Home Economics	900.00
Mildred R. Smith	Assistant in Home Economics	900.00
*Josephine Brown	Instructor in Home Economics	1,058.33
*Bertha M. Cline	Assistant in Home Economics	540.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
W. Paddock	Professor and Head of Horticulture and Forestry	4,500.00
L. M. Montgomery	Professor (on leave) of Horticulture and Forestry	2,000.00
A. C. Hottes	Assistant Professor of Horticulture and Forestry	2,750.00
P. H. Elwood	Assistant Professor of Horticulture and Forestry	2,750.00
N. W. Scherer	Assistant Professor of Horticulture and Forestry	2,250.00
F. G. Charles	Instructor in Horticulture and Forestry	2,160.00
A. D. Taylor	Non-Resident Professor of Horticulture and Forestry	500.00
John Morrison	Assistant in Horticulture and Forestry	1,740.00
John Hussey	Assistant in Horticulture and Forestry	1,800.00
J. E. Shanck	Assistant in Horticulture and Forestry	1,400.00
R. R. Jeffries	Temporary Assistant in Horticulture and Forestry	3,000.00
F. H. Kreckler	Acting Director—Lake Laboratory ...	500.00
Stephen R. Williams	Professor of Zoology—Lake Laboratory	350.00
Malcolm E. Stickney	Professor of Botany—Lake Laboratory	350.00
Clarence H. Kennedy	Instructor in Entomology—Lake Laboratory	350.00
F. S. Jacoby	Professor of Poultry Husbandry.....	3,500.00
Arthur Bayes	Superintendent of Poultry Plant	1,555.00
J. I. Falconer	Professor of Rural Economics	4,000.00
*H. E. Erdman	Assistant Professor of Rural Economics	550.00
F. L. Morrison	Instructor in Rural Economics	2,250.00
John Dowler	Assistant in Rural Economics	360.00
Cecil F. Allen	Statistical Clerk in Rural Economics..	960.00
Irma Earle	Statistical Clerk in Rural Economics..	960.00
Margie Hoffman	Statistical Clerk in Rural Economics..	960.00
Charles F. Liveley	Assistant Professor of Rural Economics	2,500.00
Z. B. Wallin	Assistant Professor of Rural Economics	2,750.00
Raymond C. Osburn	Professor and Head of Zoology and Entomology	5,000.00
Herbert Osborn	Research Professor in Zoology and Entomology	5,000.00
*C. L. Metcalf	Professor of Zoology and Entomology..	600.00
James S. Hine	Associate Professor and Curator in Zoology and Entomology	2,500.00
W. M. Barrows	Assistant Professor of Zoology and Entomology	2,750.00
F. H. Kreckler	Assistant Professor of Zoology and Entomology	2,750.00
C. H. Kennedy	Instructor in Zoology and Entomology	2,300.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
E. L. Wickliff	Instructor in Zoology and Entomology	1,500.00
W. C. Kraatz	Assistant in Zoology and Entomology	1,200.00
Mary Auten	Graduate Assistant in Zoology and Entomology	500.00
Herbert Spencer	Graduate Assistant in Zoology and Entomology	500.00
Robert N. McCormick	Graduate Assistant in Zoology and Entomology	500.00
Clifford R. Cutright	Graduate Assistant in Zoology and Entomology	500.00
Jacob W. Bulger	Graduate Assistant in Zoology and Entomology	500.00
Dwight M. De Long	Assistant Professor of Zoology and Entomology	2,500.00
Ruth M. Veth	Graduate Assistant in Zoology and Entomology	500.00
W. D. Webster	Instructor in Zoology and Entomology	1,700.00
William E. Henderson ...	Dean of the College or Arts, Philosophy, and Science	6,000.00
Emery W. Balduf	Secretary to the Dean of the College of Arts, Philosophy, and Science....	2,400.00
*Ruth Evans	Stenographer in the College of Arts, Philosophy, and Science	950.77
G. W. Knight	Professor of American History	5,000.00
H. C. Hockett	Professor of American History	4,250.00
Arthur Cole	Professor of American History	3,500.00
George A. Wood	Assistant Professor of American History	2,300.00
Carl Wittke	Assistant Professor of American History	2,300.00
Richard H. Shyrock	Instructor in American History	2,000.00
W. E. Marion	Instructor in American History	1,800.00
J. V. Denney	Professor of English	6,000.00
J. R. Taylor	Professor of English	4,000.00
G. H. McKnight	Professor of English	4,500.00
W. L. Graves	Professor of English	3,500.00
E. L. Beck	Professor of English	3,500.00
V. A. Ketcham	Professor of English	3,500.00
C. E. Andrews.....	Assistant Professor of English	3,250.00
Milton Percival	Assistant Professor of English	3,000.00
J. F. Craig	Instructor in English	2,500.00
E. W. Wiley	Instructor in English	2,500.00
Gertrude Robinson	Instructor in English	1,800.00
Verona Dollinger	Instructor in English	1,800.00
Edith Sniffen	Instructor in English	1,800.00
Walter French	Instructor in English	1,800.00
Whittier Burnet	Instructor in English	1,800.00
Sada Harbarger	Instructor in English	1,800.00
H. H. Shively	Instructor in English	1,600.00
Bernard Raymond	Instructor in English	1,800.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Eleanor Haas Percival	Instructor in English	1,500.00
Herman Miller	Instructor in English	1,800.00
Mary E. Ross	Instructor in English	1,500.00
Charles W. Racine	Assistant in English	500.00
J. Perry Teeple	Assistant in English	500.00
Paul Selby	Assistant in English	500.00
Henry Wilson	Assistant in English	500.00
Mrs. Mary A. Hitchcock	Instructor in English	800.00
J. D. Harlor	Assistant in English	500.00
Fred Harrold	Instructor in English	1,500.00
*Frank Grismer	Instructor in English	800.00
John P. Fife	Instructor in English	1,400.00
Geo. W. Hibbett	Instructor in English	1,500.00
W. P. Sanford	Instructor in English	2,500.00
*Paul S. Schoedinger	Instructor in English	800.00
*LeRoy Schwartz	Assistant in English	200.00
*Dudley F. Smith	Assistant in English	200.00
Marion E. Snyder	Assistant in English	500.00
Florence E. Moore	Assistant in English	300.00
Margaret Hicks	Assistant in English	300.00
*Florence M. Knapp	Assistant in English	300.00
*Dorothy F. Browne Reese	Assistant in English	250.00
*George H. Martin	Assistant in English	250.00
W. H. Siebert	Professor and Head of European History	4,750.00
Edgar H. McNeal	Professor of European History	3,750.00
George A. Washburne	Assistant Professor of European History	2,500.00
Arthur H. Noyes	Instructor in European History	2,000.00
Howard M. Stuckert	Assistant Professor of European History	3,000.00
Samuel Rezneck	Instructor of European History	1,800.00
J. A. Bownocker	Professor of Geology	3,750.00
J. E. Carman	Professor and Curator in Geology	3,500.00
Roderick Peattie	Assistant Professor of Geology	2,750.00
Helen Morningstar	Instructor in Geology	1,800.00
Robert F. Webb	Instructor in Geology	2,500.00
Paris B. Stockdale	Instructor in Geology	2,000.00
Mildred Fisher	Assistant in Geology	500.00
Henry M. Sayre	Student Assistant in Geology	100.00
Clarence F. Moses	Student Assistant in Geology	100.00
M. B. Evans	Professor of German	5,700.00
B. A. Eisenlohr	Professor of German	2,750.00
L. Bloomfield	Professor of German and Linguistics	4,000.00
May Thomas	Assistant Professor of German	2,000.00
G. M. Bolling	Professor of Greek	5,000.00
Harold C. Esper	Student Assistant in Greek	70.00
A. W. Hodgman	Professor of Latin	3,250.00
Wallace S. Elden	Professor and Chairman	3,250.00
Stanley B. Smith	Instructor in Latin	2,800.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
J. A. Leighton	Professor of Philosophy	5,000.00
A. R. Chandler	Assistant Professor of Philosophy ...	2,700.00
A. E. Avey	Assistant Professor of Philosophy ...	2,500.00
R. D. Williams	Assistant Professor of Philosophy ...	2,500.00
*D. Luther Evans	Assistant in Philosophy	400.00
Henry R. Spencer	Professor of Political Science	4,000.00
Francis W. Coker	Professor of Political Science	4,000.00
Walter J. Shepard	Professor and Director of Govern- mental Research	4,000.00
Robert T. Pollard	Student Assistant in Political Science	250.00
R. E. Rockwood	Assistant Professor and Chairman of Romance Languages	3,500.00
O. H. Moore	Professor of Romance Languages	4,000.00
G. R. Havens	Professor of Romance Languages	3,000.00
E. F. Hacker	Assistant Professor of Romance Lan- guages	2,750.00
T. E. Hamilton	Assistant Professor of Romance Lan- guages	2,300.00
Robert Foure	Assistant Professor of Romance Lan- guages	2,750.00
Florence Hier	Instructor in Romance Languages	2,000.00
Bertha Arthur	Instructor in Romance Languages	1,800.00
Helen Foure	Instructor in Romance Languages	1,200.00
W. S. Hendrix	Professor of Romance Languages	4,000.00
Santiago Gutierrez	Assistant Professor of Romance Lan- guages	3,250.00
Emily Schons	Instructor in Romance Languages	2,000.00
Helen Terry	Instructor in Romance Languages	1,500.00
Agnes E. Brown	Instructor in Romance Languages	1,700.00
D. P. Rotunda	Instructor in Romance Languages	2,100.00
R. L. Grismer	Instructor in Romance Languages	2,000.00
G. N. Graham	Instructor in Romance Languages	1,800.00
Helen C. Barr	Assistant in Romance Languages	1,500.00
Thor J. Beck	Instructor in Romance Languages	2,000.00
Flola L. Shepard.....	Assistant in Romance Languages	1,500.00
*Earl C. Snively	Graduate Assistant in Romance Lan- guages	630.00
William A. Whatley	Instructor in Romance Languages	2,500.00
J. E. Hagerty	Dean of the College of Commerce and Journalism	6,000.00
M. B. Hammond	Professor of Economics	6,000.00
Gordon Hayes	Professor of Economics	4,500.00
H. F. Waldradt	Assistant Professor of Economics	3,200.00
Felix E. Held	Assistant Professor of Economics	3,000.00
Frederick Croxton	Instructor of Economics	2,000.00
M. C. Cross	Assistant in Economics	900.00
Lawrence E. Clark	Assistant in Economics	1,200.00
Edwin L. Smart	Assistant in Economics	850.00
*Virgil Willet	Assistant in Economics	650.00
*C. N. Dagger	Instructor in Economics	500.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Edward S. Stimson	Assistant in Economics	300.00
*Stanley L. Whiteside	Reader in Economics	45.00
*Joseph Mitten	Reader in Economics	45.00
Thomas E. Pemberton	Reader in Economics	200.00
George D. Haskell	Instructor in Economics	1,500.00
William B. Mills	Assistant in Economics	900.00
Walter Schutz	Assistant in Economics	500.00
Ruth A. Brown	Reader in Economics	150.00
*Margaret Snyder	Reader in Economics	105.00
*Kenneth Johnson	Reader in Economics	105.00
C. C. North	Professor of Sociology	4,500.00
Mary Louise Mark	Assistant Professor of Sociology	3,200.00
Edwin L. Clarke	Assistant Professor of Sociology	2,500.00
*Agnes Drury	Instructor in Sociology	900.00
Frederick E. Lumley	Professor of Sociology	3,500.00
Henry M. Scott	Assistant in Sociology	1,400.00
*W. J. Blackburn	Assistant in Sociology	750.00
*Perry P. Denune	Assistant in Sociology	750.00
W. C. Mills	Lecturer in Sociology	500.00
Mary K. Brown	Instructor in Sociology	300.00
Floyd Van Keuren	Lecturer in Sociology	700.00
Lucia Johnson	Lecturer in Sociology	600.00
Florence E. Woodrow	Reader in Sociology	150.00
*Frances L. Segal	Reader in Sociology	135.00
*Kathryn L. White	Reader in Sociology	75.00
J. Lake Vesper	Assistant in Sociology	1,200.00
G. W. Eckelberry	Professor of Accounting	4,500.00
W. D. Wall	Lecturer in Accounting	700.00
Harold K. Casterton	Assistant in Accounting	1,200.00
O. W. Boyd	Instructor in Accounting	1,800.00
M. M. Donaldson	Assistant in Accounting	600.00
D. M. Shonting	Assistant in Accounting	1,200.00
C. C. Huntington	Professor of Economic and Social Geog- raphy	4,250.00
Eugene Van Cleef	Assistant Professor of Economic and Social Geography	3,500.00
T. N. Beckman	Instructor in Economic and Social Geog- raphy	1,700.00
F. I. Blanchard	Instructor in Economic and Social Geog- raphy	1,500.00
Ralph R. Cross	Assistant in Economic and Social Geog- raphy	900.00
*Paul G. Eckelberry	Assistant in Economic and Social Geog- raphy	750.00
Stella Huntington	Reader in Economic and Social Geog- raphy	300.00
Donald J. Hoskins	Assistant in Economic and Social Geog- raphy	600.00
*Howard H. Webster	Assistant in Economic and Social Geog- raphy	825.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
J. A. Fisher	Professor of Business Organization...	5,000.00
H. A. Hoagland	Professor of Business Organization...	5,000.00
W. C. Weidler	Professor of Business Organization...	4,000.00
C. A. Dice	Assistant Professor of Business Organ- ization	3,200.00
Montgomery Pike	Assistant Professor of Business Organ- ization	3,000.00
C. O. Ruggles	Professor of Business Organization...	6,000.00
J. A. Fitzgerald	Assistant Professor of Business Organ- ization	3,750.00
Don W. Wiper	Reader in Business Organization	150.00
Ralph Richards	Reader in Business Organization	300.00
Robert C. Mason	Assistant in Business Organization ..	400.00
*Robert M. Hunter	Assistant in Business Organization ..	750.00
Russell E. Lyons	Reader in Business Organization	150.00
Fred E. Oyer	Reader in Business Organization	150.00
J. K. Baur	Reader in Business Organization	75.00
*C. W. Bowers	Assistant in Business Organization	200.00
Joseph S. Myers	Professor of Journalism	5,000.00
O. C. Hooper	Professor of Journalism	4,000.00
Paul C. Carty	Instructor in Journalism	2,700.00
M. H. Hallett	Instructor in Journalism	2,340.00
Albert P. Taylor	Instructor in Journalism	2,184.00
Phillip W. Porter	Editor of Lantern	500.00
Carrol I. Burtanger	Business Manager of Lantern	500.00
Lester C. Getzloe	Assistant Professor of Journalism ...	2,500.00
*Henry C. Segal	Reader in Journalism	75.00
Harry M. Semans	Dean of the College of Dentistry	5,000.00
H. V. Cottrell	Professor of Dentistry	1,800.00
R. B. Wiltberger	Assistant Professor of Dentistry	1,000.00
Clyde H. Hebble	Assistant Professor of Dentistry	1,700.00
William C. Graham	Assistant Professor of Dentistry	1,300.00
Herbert S. Shumway	Instructor in Dentistry	1,300.00
Charles W. Strosnider	Instructor in Dentistry	1,300.00
Dick P. Snyder	Instructor in Dentistry	1,300.00
Edward W. Martindale	Instructor in Dentistry	900.00
Irwin A. Bottenhorn	Instructor in Dentistry	900.00
Frank C. Starr	Instructor in Dentistry	1,100.00
Ollie Mobberly	Superintendent of Laboratories at Col- lege of Dentistry	2,000.00
Louis E. Reif	Instructor in Dentistry	800.00
Earl G. Jones	Instructor in Dentistry	800.00
Webster M. Baker	Instructor in Dentistry	900.00
Wm. V. Walton	Assistant in Dentistry	200.00
George F. Arps	Dean of the College of Education	6,000.00
C. E. Erffmeyer	Instructor of Education	2,700.00
Charles F. Kelley	Professor of Art.....	4,500.00
Alice R. Robinson	Assistant Professor of Art	2,400.00
Ralph S. Fanning	Assistant Professor of Art	3,000.00
Helen F. Mackenzie	Instructor in Art.....	1,500.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Alma Knauber	Instructor in Art	1,800.00
Bruce W. Saville	Instructor in Art	2,000.00
Eloise Richardson	Graduate Assistant in Art.....	750.00
Chandler H. Montgomery..	Graduate Assistant in Art.....	500.00
Dr. B. R. Buckingham....	Director and Professor of Educational Research	7,500.00
P. R. Stevenson	Research Associate in Education	2,750.00
*Margaret Doherty	Reference Assistant in Bureau of Edu- cational Research	600.00
Grace Christy	Assistant to Director of Educational Research	1,333.34
*Josephine MacLatchy	Editorial Assistant in Bureau of Edu- cational Research	1,031.25
Lewis F. Anderson	Professor of History and Philosophy of Education	4,250.00
Henry C. Kohler	Assistant in History and Philosophy of Education	750.00
Eldon L. Usry	Professor of Industrial Education ...	3,200.00
Robert E. Smith	Instructor in Industrial Education ...	2,400.00
J. L. Clifton	Professor of Principles and Practice of Education	3,900.00
George R. Twiss	Professor of Principles and Practice of Education	3,000.00
F. C. Landsittle	Assistant Professor of Principles and Practice of Education	3,000.00
Boyd H. Bode	Professor of Principles and Practice of Education	6,000.00
N. S. Maddox	Assistant in Principles and Practice of Education	500.00
Albert P. Weiss	Professor of Psychology	4,250.00
Harold E. Burt	Assistant Professor of Psychology...	3,500.00
Sidney L. Pressey	Assistant Professor of Psychology...	3,000.00
Anna S. Rogers	Instructor in Psychology	2,250.00
Laura Chassell	Instructor in Psychology	2,000.00
Erwin A. Esper	Instructor in Psychology	2,000.00
Elizabeth Hatch	Instructor in Psychology	2,000.00
Frances T. Halstead	Instructor in Psychology	2,000.00
Eldra W. Hartley	Assistant in Psychology	750.00
Joseph E. Svoboda	Assistant in Psychology	500.00
Mrs. Bertha Koch	Assistant in Psychology	775.00
Hugh C. Winbigler	Assistant in Psychology	500.00
Willie Stephens	Graduate Assistant in Psychology ...	500.00
Winnifred Macfadyen	Graduate Assistant in Psychology ...	500.00
*Paul R. Farnsworth	Instructor in Psychology	1,275.00
Mrs. S. L. Pressey	Instructor in Psychology	1,800.00
*R. D. Williams	Instructor in Psychology	750.00
Robert Axel	Instructor in Psychology	2,000.00
F. C. Wagenhals	Instructor in Psychology	3,000.00
*Florence Fitzgerald	Instructor in Psychology	1,000.00
K. C. Pratt	Assistant in Psychology	500.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
*Elouise Robinson	Assistant in Psychology	375.00
Samuel W. Brown	Professor in School Administration...	2,000.00
C. C. McCracken	Professor in School Administration...	4,200.00
E. J. Ashbaugh	Professor in School Administration...	5,000.00
*Neil C. McDonald	Assistant Professor in School Adminis- tration	1,750.00
E. A. Hitchcock	Dean and Director of the College of Engineering Experiment Station ...	6,000.00
Lenora Glasgow	Secretary to Dean	1,400.00
Joseph N. Bradford	Professor of Architecture	1,300.00
Charles S. Chubb	Professor of Architecture	3,800.00
F. H. Haskett	Instructor in Architecture	2,750.00
W. C. Ronan	Assistant Professor in Architecture ..	2,700.00
George Fraser	Assistant Professor in Architecture...	2,000.00
Henry C. Lord	Professor of Astronomy	4,000.00
E. S. Manson	Associate Professor in Astronomy	2,600.00
S. F. Stapleton	Student Assistant in Astronomy	360.00
Arthur Watts	Professor of Ceramics	4,500.00
Carl B. Harrop	Assistant Professor of Ceramics	2,750.00
James T. Robson	Instructor in Ceramics	1,200.00
John Lysatt	Technician in Ceramics	900.00
W. L. Evans	Professor of Chemistry	5,500.00
J. R. Withrow	Professor of Chemistry	4,500.00
C. W. Foulk	Professor of Chemistry	4,000.00
C. E. Boord	Assistant Professor of Chemistry	3,500.00
Marion Hollingsworth ...	Assistant Professor of Chemistry	2,700.00
C. D. Looker	Assistant in Chemistry	1,600.00
Alpha J. Will	Assistant in Chemistry	500.00
Joseph F. Haskins	Assistant in Chemistry	1,500.00
Albert Vilbrandt	Assistant in Chemistry	1,500.00
William S. Jones	Assistant in Chemistry	1,000.00
Clare S. Martin	Assistant in Chemistry	1,500.00
G. D. Patterson	Assistant in Chemistry	1,000.00
J. B. Peterson	Assistant in Chemistry	1,000.00
R. W. Collins	Assistant in Chemistry	500.00
George M. Strong	Assistant in Chemistry	500.00
Lawrence E. Stout	Assistant in Chemistry	1,000.00
Arthur T. Bawden	Graduate Assistant in Chemistry	500.00
Leonard T. Capell	Assistant in Chemistry	1,000.00
Cole Coolidge	Assistant in Chemistry	1,000.00
Marion D. Coulter	Graduate Assistant in Chemistry	500.00
Carl W. Holl	Assistant in Chemistry	1,000.00
W. H. Charch	Assistant in Chemistry	1,000.00
Harold Hollaway	Assistant in Chemistry	1,000.00
Gerard G. Osterhof	Graduate Assistant in Chemistry	500.00
Lucien F. Hunt	Graduate Assistant in Chemistry	500.00
Mendel E. Lash	Graduate Assistant in Chemistry	500.00
Edward G. Meiter	Graduate Assistant in Chemistry	500.00
Walter H. Moran	Assistant in Chemistry	1,000.00
G. H. VanderBorgh	Graduate Assistant in Chemistry	500.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Grace M. Seifried	Graduate Assistant in Chemistry	500.00
Robert S. Hanson	Graduate Assistant in Chemistry	500.00
Edward Mack	Assistant Professor in Chemistry	3,000.00
Wesley G. France	Assistant Professor in Chemistry	2,500.00
Harold N. Barham	Graduate Assistant in Chemistry	500.00
James F. Chalmers	Graduate Assistant in Chemistry	500.00
Homer C. Cupples	Graduate Assistant in Chemistry	500.00
Gaylord B. Estabrook	Graduate Assistant in Chemistry	500.00
Henry B. Hass	Graduate Assistant in Chemistry	500.00
Robert Havighurst	Graduate Assistant in Chemistry	500.00
Preston Hoff	Graduate Assistant in Chemistry	500.00
John D. McBurney	Graduate Assistant in Chemistry	500.00
Henry F. Palmer, Jr.	Graduate Assistant in Chemistry	500.00
Helen L. Wikoff	Graduate Assistant in Chemistry	500.00
Allen N. Zechiel	Graduate Assistant in Chemistry	500.00
John H. Griffith	Graduate Assistant in Chemistry	500.00
Donald B. Brooks	Graduate Assistant in Chemistry	500.00
Thomas H. Swan	Graduate Assistant in Chemistry	500.00
Theodore S. Eckert	Graduate Assistant in Chemistry	500.00
W. J. Fordyce	Student Assistant in Chemistry	250.00
*Anthony George	Student Assistant in Chemistry	125.00
Irwin Staebule	Student Assistant in Chemistry	250.00
Robert H. K. Foster	Student Assistant in Chemistry	250.00
Elsie Cherrington	Student Assistant in Chemistry	250.00
A. E. Luckhaupt	Student Assistant in Chemistry	250.00
*H. K. Linzell	Graduate Assistant in Chemistry	100.00
Howard E. Fritz	Special Assistant in Chemistry	1,500.00
Charles S. Pease	Graduate Assistant in Chemistry	500.00
*Donald S. Villars	Graduate Assistant in Chemistry	400.00
*John E. Vargus	Student Assistant in Chemistry	125.00
C. E. Sherman	Professor of Civil Engineering	5,000.00
F. H. Eno	Professor of Civil Engineering	3,600.00
R. C. Sloane	Assistant Professor of Civil Engineering	3,000.00
J. R. Shank	Assistant Professor of Civil Engineering	3,000.00
Claude Wall	Instructor in Civil Engineering	1,500.00
Joseph R. Burkey	Professor of Civil Engineering	3,350.00
J. Clarence Merrell	Instructor in Civil Engineering	2,000.00
Charles A. Miller	Instructor in Civil Engineering	1,500.00
F. C. Caldwell	Professor of Electrical Engineering ..	4,000.00
C. A. Wright	Professor of Electrical Engineering ..	3,500.00
R. A. Brown	Assistant Professor of Electrical Engineering	2,250.00
A. F. Puchstein	Assistant Professor of Electrical Engineering	2,250.00
J. E. Shepardson	Instructor in Electrical Engineering..	2,000.00
K. D. Price	Assistant in Electrical Engineering ..	1,000.00
Robert Hughes	Assistant in Electrical Engineering ..	1,800.00
William Glakin	Shop Helper in Electric Engineering ..	720.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
V. M. Lucas	Wireless Operator in Electrical Engineering	120.00
Thomas E. French	Professor of Engineering Drawing ..	5,000.00
Robert Meiklejohn	Professor of Engineering Drawing ..	3,200.00
O. E. Williams	Assistant Professor of Engineering Drawing	3,000.00
W. D. Turnbull.....	Assistant Professor of Engineering Drawing	3,000.00
C. L. Svensen	Assistant Professor of Engineering Drawing	3,000.00
W. B. Field	Assistant Professor of Engineering Drawing	2,500.00
Floyd K. Martin.....	Assistant in Engineering Drawing ..	1,100.00
Tecla Haldy	Assistant in Engineering Drawing ..	1,100.00
Ralph Paffenbarger	Instructor in Engineering Drawing ..	2,250.00
Ralph W. Dunkle	Instructor in Engineering Drawing ..	1,600.00
Allen J. Smith	Student Assistant in Engineering Drawing	300.00
Frances I. Rataiczak	Student Assistant in Engineering Drawing	300.00
Thomas N. Finical	Student Assistant in Engineering Drawing	300.00
James W. Reed	Instructor in Engineering Drawing ..	1,500.00
John P. Rannells	Student Assistant in Engineering Drawing	300.00
George Q. Downes	Student Assistant in Engineering Drawing	300.00
W. A. Knight	Professor of Industrial Arts	3,000.00
C. M. Beem	Instructor in Industrial Arts	1,800.00
U. W. Denman	Instructor in Industrial Arts	1,700.00
J. A. Foust	Instructor in Industrial Arts	1,700.00
Rudolph Schneider	Instructor in Industrial Arts	1,800.00
P. L. Wright	Instructor in Industrial Arts	1,600.00
Carl M. Senn	Instructor in Industrial Arts	900.00
Harold Wright	Instructor in Industrial Arts	1,600.00
Ora L. Justice	Shop Assistant in Industrial Arts	1,440.00
Oscar D. Rickley	Assistant in Industrial Arts	1,500.00
Raymond W. Hogan	Student Assistant in Industrial Arts ..	350.00
Clay H. Stackhouse	Student Assistant in Industrial Arts ..	160.00
Granville G. Prior	Student Assistant in Industrial Arts ..	120.00
Erwin M. Briethaupt	Student Assistant in Industrial Arts ..	180.00
R. D. Bohannon	Professor of Mathematics	4,000.00
K. D. Swartzel	Professor of Mathematics	3,250.00
H. W. Kuhn	Professor of Mathematics	3,250.00
S. E. Rasor	Professor of Mathematics	3,250.00
G. W. McCoard	Professor of Mathematics	2,000.00
C. C. Morris	Professor of Mathematics	2,500.00
C. L. Arnold	Associate Professor of Mathematics ..	2,750.00
J. D. Preston	Assistant Professor of Mathematics ..	1,800.00
Grace Bareis	Assistant Professor of Mathematics ..	2,000.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Harry Beatty	Assistant Professor of Mathematics ..	2,000.00
Hortense Rickard	Instructor in Mathematics	2,000.00
James H. Weaver	Assistant Professor of Mathematics ..	2,500.00
*J. C. Reitz	Assistant Professor of Mathematics ..	700.00
Van Teach	Instructor in Mathematics	1,800.00
Dio Holl	Instructor in Mathematics	1,300.00
Vaughn Caris	Instructor in Mathematics	2,000.00
Margaret Jones	Instructor in Mathematics	1,800.00
Clarice S. Hobensack	Instructor in Mathematics	1,800.00
Choon Lee	Instructor in Mathematics	500.00
W. T. Magruder	Professor of Mechanical Engineering..	4,250.00
F. W. Marquis	Professor of Mechanical Engineering..	3,750.00
C. A. Norman	Professor of Mechanical Engineering..	3,600.00
Horace Judd	Professor of Mechanical Engineering..	3,000.00
Aubrey Brown	Assistant Professor of Mechanical En- gineering	2,750.00
Paul Bucher	Instructor in Mechanical Engineering..	2,400.00
Karl W. Stinson	Instructor in Mechanical Engineering..	2,100.00
Fay A. Dun	Instructor in Mechanical Engineering..	1,750.00
Roland H. Wasson	Instructor in Mechanical Engineering..	1,900.00
R. L. Sweigert	Assistant in Mechanical Engineering..	300.00
J. J. Davis	Machinist in Mechanical Engineering..	1,520.00
R. L. Pratt	Stationary Engineer in Mechanical En- gineering	1,520.00
George Richey	Laborer in Mechanical Engineering ..	900.00
Harold M. Jacklin	Instructor in Mechanical Engineering	2,000.00
John Q. Harshman	Assistant in Mechanical Engineering	1,200.00
Samuel R. Beitler	Assistant in Mechanical Engineering	1,200.00
*Charles F. Marvin, Jr. ...	Assistant in Mechanical Engineering	600.00
James E. Boyd	Professor of Mechanics	4,250.00
E. F. Coddington	Professor of Mechanics	4,000.00
Percy W. Ott	Assistant Professor of Mechanics	2,650.00
D. J. Demorest	Professor of Metallurgy	4,250.00
Wm. A. Mueller	Assistant Professor of Metallurgy	2,500.00
J. O. Lord	Instructor in Metallurgy	1,500.00
*Lyman C. Athey	Student Assistant in Metallurgy	60.00
Frank A. Ray	Consulting Director of School of Mines	1,000.00
Harry E. Nold	Professor and Head of Mine Engineer- ing	3,000.00
H. D. Decker	Instructor in Mine Engineering	1,500.00
W. J. McCaughey	Professor of Mineralogy	3,500.00
*Rodney F. Stillwell	Student Assistant in Mineralogy	60.00
A. D. Cole	Professor of Physics	4,500.00
R. F. Earhart	Professor of Physics	3,500.00
Howard D. Minchin	Professor of Applied Optics	3,000.00
Alpheus Smith	Professor of Physics	4,000.00
F. C. Blake	Professor of Physics	3,750.00
H. G. Heil	Assistant Professor of Physics	2,600.00
D. A. Woodbury	Instructor in Physics	2,100.00
Alva W. Smith	Assistant Professor of Physics	2,400.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
John S. Ward	Instructor in Physics	1,700.00
C. W. Jarvis	Instructor in Physics	1,900.00
Fred J. Brooks	Assistant in Physics	1,700.00
M. C. Davies	Instructor in Applied Optics	2,000.00
E. F. Lowry	Instructor in Physics	2,100.00
*J. B. Sparrow	Apparatus Custodian in Physics	1,166.67
John R. Rose	Assistant in Physics	900.00
*Tadashi Fujimoto	Assistant in Physics	700.00
Claude A. Burrett	Dean of the College of Homeopathic Medicine	5,000.00
John W. Cogswell	Professor of Homeopathic Medicine ..	2,700.00
Judson A. Ferree	Professor of Homeopathic Medicine ..	3,000.00
Fred B. Grosvenor	Professor of Homeopathic Medicine ..	2,700.00
Albert E. Hinsdale	Professor of Homeopathic Medicine ..	3,500.00
Wm. A. Humphrey	Professor of Homeopathic Medicine ..	2,700.00
Roy C. Wolcott	Professor of Homeopathic Medicine ..	2,700.00
Earl H. Baxter	Instructor in Homeopathic Medicine ..	1,800.00
W. B. Carpenter	Lecturer in Homeopathic Medicine	300.00
J. G. Keiser	Lecturer in Homeopathic Medicine	300.00
Edgar B. Junkermann	Lecturer in Homeopathic Medicine	300.00
Alpha F. Hawk	Instructor in Homeopathic Medicine ..	1,200.00
Ralph W. Hoffman	Assistant in Homeopathic Medicine ..	700.00
Harry M. Sage	Instructor in Homeopathic Medicine ..	1,200.00
Ray Manor	Hospital Interne at Homeopathic Hos- pital	600.00
Edith Miller	Instructor in Homeopathic Medicine ..	1,300.00
Jessie Harrod	Superintendent of Homeopathic Hos- pital	1,500.00
Gertrude Loessel	Principal of Nurses Training School— Homeopathic Hospital	1,200.00
Katherine Percy	Dietitian at Homeopathic Hospital	1,020.00
Love R. Swinger	Supervisor of Operating Room—Homeo- pathic Hospital	900.00
*Kathryn Burger	Supervisor of Maternity — Homeo- pathic Hospital	20.00
*Louise Harrod	Supervisor of Pharmacy—Homeopathic Hospital	30.33
*Inez Terry	Day Supervisor—Homeopathic Hospi- tal	91.00
Alice Taylor	Clerk—Homeopathic Hospital	960.00
*Elizabeth Simonds	Clerk—Homeopathic Hospital	800.00
John Graham	Janitor—Homeopathic Hospital	1,080.00
*Jane Anderson	Student Nurse—Homeopathic Hospital	42.08
*Helen Amon	Student Nurse—Homeopathic Hospital	42.08
*Jeanette Allmand	Student Nurse—Homeopathic Hospital	28.54
Margaret Barrington	Student Nurse—Homeopathic Hospital	75.00
Ann Connor	Student Nurse—Homeopathic Hospital	75.00
*Ida Eichorn	Student Nurse—Homeopathic Hospital	6.25
Nellie Ewing	Student Nurse—Homeopathic Hospital	75.00
Carolyn Fritsche	Student Nurse—Homeopathic Hospital	75.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Elizabeth Gorsuch	Student Nurse—Homeopathic Hospital	75.00
Louwilda Glover	Student Nurse—Homeopathic Hospital	75.00
Irene Horr	Student Nurse—Homeopathic Hospital	75.00
*Wanda Hahn	Student Nurse—Homeopathic Hospital	15.00
Pearl Houser	Student Nurse—Homeopathic Hospital	75.00
*Hazel Hawk	Student Nurse—Homeopathic Hospital	3.23
Mildred Hutchins	Student Nurse—Homeopathic Hospital	75.00
*Emilie Junkerman	Student Nurse—Homeopathic Hospital	25.63
*Minnie Knecht	Student Nurse—Homeopathic Hospital	43.75
*Esther Lyon	Student Nurse—Homeopathic Hospital	25.00
Verna McMillan	Student Nurse—Homeopathic Hospital	75.00
*Irene Marshall	Student Nurse—Homeopathic Hospital	62.50
*Edna Schultz	Student Nurse—Homeopathic Hospital	48.02
Mae Tisdale	Student Nurse—Homeopathic Hospital	75.00
Madelyn Yeager	Student Nurse—Homeopathic Hospital	75.00
Georgianna Barga	Student Nurse—Homeopathic Hospital	75.00
*Mary Summerfield	Student Nurse—Homeopathic Hospital	62.50
*Della Pollic	Student Nurse—Homeopathic Hospital	62.50
*Lulu Kauble	Student Nurse—Homeopathic Hospital	62.50
*Dorothy Bray	Student Nurse—Homeopathic Hospital	62.50
*Alice Edwards	Supervisor Children's Ward—Homeopathic Hospital	307.50
*Mrs. A. F. Hawk	Maternity Supervisor of Homeopathic Hospital	70.00
*Mary Ferguson	Pharmacy Supervisor of Homeopathic Hospital	91.00
*Wanda Fay Hahn	Night Supervisor—Homeopathic Hospital	560.00
*Mary Ellen Towns	Supervisor of Maternity—Homeopathic Hospital	225.00
*Edna Wright	Student Nurse—Homeopathic Hospital	68.75
*Emilia Junkermann	Pharmacy Nurse—Homeopathic Hospital	553.00
*Eva Belle Clements	Supervisor of Maternity—Homeopathic Hospital	300.00
*Ruth Edna Schultz	Supervisor of Children's Department—Homeopathic Hospital	315.00
*Amy Galloway	Student Nurse—Homeopathic Hospital	6.25
*Janette Taylor	Student Nurse—Homeopathic Hospital	56.25
*Hilda Taylor	Student Nurse—Homeopathic Hospital	56.25
*Jessie Waines	Student Nurse—Homeopathic Hospital	56.25
*Ruth DeLashmutt	Student Nurse—Homeopathic Hospital	56.25
*Mrs. Mildred Couchot	Student Nurse—Homeopathic Hospital	50.00
*Fern Zetty	Student Nurse—Homeopathic Hospital	56.25
*Maude Hugus	Student Nurse—Homeopathic Hospital	56.25
Mildred Sutter	Student Nurse—Homeopathic Hospital	56.25
Pauline Justice	Student Nurse—Homeopathic Hospital	56.25
Laura Campbell	Student Nurse—Homeopathic Hospital	43.75
*Minnie Knecht	Day Supervisor—Homeopathic Hospital	280.58

THE OHIO STATE UNIVERSITY

231

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
*Nora DeLashmutt	Night Supervisor—Homeopathic Hospital	70.00
*Louise Harrod	Pediatric Supervisor — Homeopathic Hospital	75.00
John J. Adams	Dean and Professor of Law	6,000.00
George W. Rightmire	Professor of Law	5,500.00
Alonzo H. Tuttle	Professor of Law	5,000.00
Clarence D. Laylin	Professor of Law	5,000.00
*G. N. Dagegr	Instructor in Law	1,000.00
*Herman R. Tingley	Instructor in Law	1,000.00
E. F. McCampbell	Dean of the College of Medicine	6,000.00
Charles E. Findlay	Secreary to the Dean of the College of Medicine	2,000.00
F. L. Landacre	Professor and Head of Anatomy	5,000.00
Edward C. Buck	Assistant Professor of Anatomy	3,000.00
R. C. Baker	Assistant Professor of Anatomy	2,500.00
R. A. Knouff	Assistant Professor of Anatomy	2,500.00
Clarence I. Britt	Assistant in Anatomy	1,500.00
Dorothy Burton Seales ...	Assistant in Anatomy	1,200.00
Thomas Evans	Assistant in Anatomy	1,100.00
Howard J. Smith	Student Assistant in Anatomy	300.00
Lyle Leonard	Student Assistant in Anatomy	300.00
Oscar L. Doddington	Student Assistant in Anatomy	150.00
Charles B. Morrey	Professor and Head of Bacteriology ..	3,750.00
W. A. Starin	Professor of Bacteriology	3,250.00
Vera McCoy Masters	Assistant Professor of Bacteriology ..	1,800.00
Fred Speer	Instructor in Bacteriology	2,000.00
Robert A. Moore	Assistant in Bacteriology	1,200.00
*Harold E. Lowry	Laboratory Assistant in Bacteriology ..	200.00
Reginald F. Jukes	Assistant in Bacteriology	1,200.00
*Howard I. Lowery	Laboratory Assistant in Bacteriology..	400.00
Walter G. Huffman	Pharmacist in Dispensaries	500.00
John H. J. Upham	Professor and Head of Medicine	2,000.00
Halbert B. Blakey	Assistant Professor of Medicine	200.00
Jacob J. Coons	Assistant Professor of Medicine	300.00
Charles J. Shepard	Assistant Professor of Medicine	300.00
Elmer G. Horton	Assistant Professor of Medicine	500.00
Elijah J. Gordon	Assistant Professor of Medicine	2,400.00
Solomon A. Hatfield	Assistant Professor of Medicine	2,750.00
William H. Pritchard	Instructor in Medicine	200.00
Joseph W. Leist	Instructor in Medicine	1,500.00
Raymond A. Ramsey	Instructor in Medicine	400.00
J. W. Sheetz	Instructor in Medicine	300.00
Samuel D. Edelman	Instructor in Medicine	300.00
Frank C. Wagenhals	Instructor in Medicine	500.00
E. F. Pienert	Assistant in Medicine	200.00
Harry A. Minthorn	Assistant in Medicine	200.00
Herbert V. Weihrauch ...	Assistant in Medicine	300.00
John D. Dunham	Assistant Professor of Medicine	300.00
Andrews Rogers	Professor and Head of Obstetrics	1,250.00

ANNUAL REPORT

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
G. Wayne Brehm	Instructor in Obstetrics	500.00
Walter Duffee	Instructor in Obstetrics	750.00
Roy E. Krigbaum	Assistant in Obstetrics	600.00
John Edwin Brown	Professor and Head of Ophthalmology and Oto-Laryngology	300.00
Andrew Timberman	Professor of Ophthalmology and Oto- Laryngology	300.00
George C. Schaeffer	Assistant Professor of Ophthalmology and Oto-Laryngology	400.00
Hugh G. Beatty	Assistant Professor of Ophthalmology and Oto-Laryngology	400.00
Andrew W. Prout	Assistant Professor of Ophthalmology and Oto-Laryngology	400.00
Arthur M. Hauer	Assistant Professor of Ophthalmology and Oto-Laryngology	400.00
Charles H. Hoffhine	Instructor in Ophthalmology and Oto- Laryngology	400.00
John B. Alcorn	Instructor in Ophthalmology and Oto- Laryngology	400.00
T. Reese Williams	Assistant in Ophthalmology and Oto- Laryngology	400.00
Clarence B. Tanner.....	Assistant in Ophthalmology and Oto- Laryngology	400.00
Ernest Scott	Professor and Head of Pathology	4,000.00
Carl Spohr	Professor of Pathology	3,300.00
Lear H. VanBuskirk	Instructor in Pathology	2,200.00
Phillip J. Reel	Instructor in Pathology	1,600.00
Mary H. Oliver	Instructor in Pathology	1,200.00
Mortimer Banks	Technical Assistant in Pathology	1,100.00
Clinton L. Bryant	Technical Assistant in Pathology	1,100.00
Roy G. Hoskins	Professor and Head of Physiology ...	5,000.00
A. M. Bleile	Professor of Physiology	3,750.00
Clayton McPeck	Assistant Professor of Physiology	2,750.00
R. J. Seymour	Assistant Professor of Physiology	2,600.00
E. P. Durrant	Instructor in Physiology	2,100.00
Carl P. Effler	Technical Assistant in Physiology	2,000.00
Elmer A. Assman	Student Assistant in Physiology	600.00
Palmer L. Cordray	Student Assistant in Physiology	300.00
Emlyn R. Marker	Student Assistant in Physiology	300.00
Edward L. Sager	Student Assistant in Physiology	250.00
Clayton S. Smith	Professor and Head of Physiological Chemistry, Pharmacology and Ma- teria Medica	4,000.00
Henry Clay Powelson.....	Student Assistant in Physiological Chemistry, Pharmacology and Ma- teria Medica	600.00
John M. Van Dyke.....	Student Assistant in Physiological Chemistry, Pharmacology and Ma- teria Medica	400.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Emery R. Hayhurst.....	Professor and Head of Public Health and Sanitation	3,000.00
Mrs. Louis Selbert	Assistant Professor of Public Health and Sanitation	2,500.00
Charles S. Hamilton	Professor and Head of Surgery and Gynecology	500.00
Verne A. Dodd	Professor of Surgery and Gynecology.	3,000.00
Isaac B. Harris	Assistant Professor of Surgery and Gynecology	300.00
Yeatman Wardlow	Professor of Surgery and Gynecology..	300.00
Fred Fletcher	Assistant Professor of Surgery and Gynecology	300.00
Leslie L. Bigelow	Assistant Professor of Surgery and Gynecology	2,250.00
Edwin A. Hamilton	Assistant Professor of Surgery and Gynecology	1,000.00
John W. Means	Instructor in Surgery and Gynecology.	500.00
A. M. Steinfeld	Assistant Professor of Gynecology and Surgery	300.00
Luke V. Zartman	Instructor in Surgery and Gynecology	700.00
Hugh A. Baldwin	Instructor in Surgery and Gynecology	300.00
Hugh J. Means	Assistant Professor of Surgery and Gynecology	900.00
E. C. Ludwig	Instructor in Surgery and Gynecology	300.00
H. O. Bratton	Instructor in Surgery and Gynecology	300.00
George H. Shawaker	Assistant in Surgery and Gynecology	300.00
P. E. Stiffey	Instructor in Surgery and Gynecology	300.00
Wm. N. Taylor	Instructor in Surgery and Gynecology	300.00
*Mary Ronan	Technician in Surgery and Gynecology	70.00
*Artye Rose	Technician in Surgery and Gynecology	420.00
*Milton E. Jones	Assistant in Surgery and Gynecology.	No salary
*Esther Haberthuer	Technician Assistant in Surgery and Gynecology	350.00
Clair A. Dye	Dean and Professor of Pharmacy.....	4,000.00
Clarence M. Brown	Assistant Professor of Pharmacy.....	2,500.00
William S. Stevens	Instructor in Pharmacy	1,800.00
Raymond J. Albert	Student Assistant in Pharmacy	200.00
Kenneth W. Cook	Student Assistant in Pharmacy	200.00
Frank D. Brill	Student Assistant in Pharmacy	200.00
Nellis G. Christman	Student Assistant in Pharmacy	200.00
David S. White	Dean and Professor of Veterinary Medicine	6,000.00
Septimus Sisson	Professor of Veterinary Medicine	4,250.00
Oscar V. Brumley	Professor of Veterinary Medicine	5,000.00
Leonard W. Goss	Professor of Veterinary Medicine	5,000.00
James D. Grossman	Professor of Veterinary Medicine	3,000.00
James H. Snook	Professor of Veterinary Medicine	3,000.00
J. N. Shoemaker	Assistant Professor of Veterinary Medicine	2,700.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Walter R. Hobbs	Assistant Professor of Veterinary Medicine	2,700.00
R. E. Rebrassier	Instructor in Veterinary Medicine	2,400.00
R. A. Hendershott	Instructor in Veterinary Medicine	1,600.00
Mabel E. Moran	Secretary to the Dean of the College of Veterinary Medicine	1,200.00
*Fay Adams	Clerk in the College of Veterinary Medicine	898.46
E. L. Clements	Technician in the College of Veterinary Medicine	1,200.00
W. H. Walker	Groom in the College of Veterinary Medicine	1,200.00
*C. W. King	Groom in the College of Veterinary Medicine	200.00
A. W. Fisher	Groom in the College of Veterinary Medicine	1,000.00
William McPherson	Dean of the Graduate School	6,000.00
Karl H. Hoenig	Director of Music	900.00
Olive B. Jones	Librarian	3,000.00
C. W. Reeder	Reference Librarian	2,750.00
Maud D. Jeffrey	Reference Librarian	2,400.00
Gertrude Kellicott	Accession Librarian	2,400.00
Bertha M. Schneider	Head Cataloger	2,400.00
Donald Leidigh	Accession Assistant	1,400.00
Alice D. McKee	Cataloger	1,500.00
Dorothy I. Higgins	Cataloger	2,000.00
Alice D. Cruikshank	Cataloger	1,350.00
*Mae M. Walker	Library Assistant	180.00
Harriet N. Townshend ..	Library Assistant	1,080.00
Ruth Jones	Library Assistant	1,080.00
Edith M. Miller	Library Assistant	1,080.00
Rita M. Buxton	Library Assistant	1,050.00
Susan Marksbury	Library Assistant	1,373.34
Marie Hopkins	Library Assistant	780.00
Mary E. Bigger	Library Assistant	1,200.00
Helen K. Laughlin	Library Assistant	1,080.00
C. H. Cool	Night Assistant	550.00
Milton O. Lee	Night Assistant	550.00
Mary R. Rinker	Library Assistant	825.00
W. C. George	Check Room Attendant	1,440.00
Edna E. Davis	Library Assistant	1,916.68
Miriam P. Beckes	Library Assistant	960.00
Adah P. Smith	Library Assistant	990.00
Ellen Michael	Library Assistant	960.00
*Dorothea Conrad	Library Assistant	720.00
Mary T. Beggs	Library Assistant	960.00
*Gertrude Lance	Library Assistant	210.00
*Granville H. Martin	Library Assistant	285.00
*Kenyon Campbell	Library Assistant	285.00
*Harry S. Bugbee	Library Assistant	285.00

THE OHIO STATE UNIVERSITY

235

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
*Robert M. Hunter	Library Assistant	285.00
*Marion F. Ross	Library Assistant	270.00
*Mrs. Gordan D. Patterson	Library Assistant	270.00
*Margaret H. Sturm	Library Assistant	1,029.17
*Esther Early	Library Assistant	540.00
*Adelaide Hibbard	Library Assistant	720.00
*Karl D. Way	Library Assistant	150.00
*Oliver Donnenwirth	Library Assistant	195.00
C. F. Leonard	Professor and Commandant of Military Science	500.00
Paul Murray	Assistant Professor of Military Science	250.00
Ralph C. Benner	Assistant Professor of Military Science	250.00
Frank E. Kauffman	Assistant Professor of Military Science	250.00
Wylie T. Conway	Assistant Professor of Military Science	250.00
Edward C. Hanford	Assistant Professor of Military Science	250.00
Carlisle B. Cox	Assistant Professor of Military Science	250.00
Paul H. Barry	Assistant Professor of Military Science	250.00
Clell B. Perkins	Assistant Professor of Military Science	250.00
Edward G. Herlihy	Assistant Professor of Military Science	250.00
Gustav Bruder	Band Leader	500.00
Carl R. Perkins	Assistant Professor of Military Science	250.00
L. W. St. John	Professor of Physical Education	5,000.00
J. H. Nichols	Professor of Physical Education	5,000.00
F. R. Castleman	Professor of Physical Education	3,000.00
G. M. Trautman	Assistant Professor of Physical Educa- tion	2,500.00
Samuel H. Cobb	Assistant Professor of Physical Educa- tion	2,400.00
R. M. Greuninger	Student Assistant in Physical Educa- tion	300.00
R. T. Mason	Student Assistant in Physical Educa- tion	500.00
V. R. Billingsley	Instructor in Physical Education	1,500.00
Ethel C. Scofield	Assistant Professor of Physical Edu- cation	2,000.00
Clara R. Ranck	Instructor in Physical Education	1,500.00
Dorothy Gibling	Instructor in Physical Education	1,500.00
Mrs. Clark Hunter	Pianist in Physical Education	750.00
Laura E. Fredo	Maid in the Department of Physical Education	720.00
Ada V. Wright	Medical Examiner—Women	1,200.00
H. E. Caldwell	Instructor in Physical Education	1,500.00
*Cecil E. Clough	Student Assistant in Physical Educa- tion	120.00
*Glenn Alexander	Instructor in Physical Education	1,500.00
*Paul B. Norton	Student Assistant in Physical Educa- tion	160.00
Katherine A. Vogel	Executive Clerk	1,800.00
*Marie Bowman	Stenographer—President's Office	1,111.54
*Edith M. Auch	Auditor of Student Organizations	407.69

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Carl E. Steeb	Secretary to the Board of Trustees and Business Manager	6,000.00
Arminie L. Shields	Chief Clerk	1,200.00
*Margaret Sturm	Stenographer	23.92
R. M. Royer	Purchasing Agent	3,300.00
*Harriet Foster	Clerk	765.00
Edith Sands	Typist	1,020.00
*Dorothy Crumley	Stenographer	640.00
Charles A. Kuntz	Comptroller	3,000.00
Floris Hane	Cashier	1,380.00
Dorothy M. Lewis	Assistant Cashier	1,080.00
Mary Kraus	Auditor	1,800.00
Anna L. O'Rourke	Stenographer	1,080.00
Mary V. Heiser	Typist	960.00
Harriet Needham	Clerk	960.00
Florence Naile	Bookkeeper	1,500.00
Catherine Cottingham	Clerk	960.00
*Helena Sands	*Typist	323.08
*C. Reed Hill	Student Clerk	180.00
*Glenn R. Hatfield	Student Clerk	135.00
Hugh Hardy	Clerk in the Mailing Department.....	1,320.00
George J. Hoesch	Clerk in the Mailing Department.....	1,200.00
Ernest Ford	Mail Carrier in the Mailing Department	1,200.00
Edith D. Cockins	Registrar, University Editor, and Secretary of Faculty	3,600.00
*Lucy M. Taylor	Assistant to Registrar	350.00
Clara Miller	Assistant to Registrar	1,500.00
Helen Clarke	Assistant to Registrar	1,500.00
Ethel Woodbury	Assistant to Registrar	1,200.00
Helen Frame	Assistant to Registrar	1,200.00
*Louise K. Leslie	Assistant to Registrar	160.00
Eva M. Coons	Assistant to Registrar	1,200.00
Virginia Michael	Assistant to Registrar	960.00
Bonnie Woodbury	Assistant to Registrar	1,080.00
Esther Roberts	Assistant to Registrar	960.00
Esther B. Funk	Assistant to Registrar	1,200.00
*Elizabeth Richards	Assistant to Registrar	560.00
B. L. Stradley	Assistant Professor of Education	2,750.00
Mary E. Morris	Clerk in the Entrance Board	1,500.00
Helen F. Powell	Stenographer in the Entrance Board..	960.00
*Bessie Plummer	Stenographer in the Entrance Board..	453.33
Elizabeth Conrad	Dean of Women	3,300.00
Mary Louise Brown	Assistant (Housing Inspector)	1,800.00
*Louella St. Clair	Secretary to the Dean of Women	249.23
*Beatrice Babb	Secretary to the Dean of Women	851.54
H. S. Wingert	Director of Student Health Service ...	3,500.00
*Maude M. Eckhart	Stenographer	753.85
Marguerite Kutz	Nurse	1,500.00
Fred E. Jones	Director of Stores and Receiving	2,750.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Annette Shugert	Stenographer—Brown Hall	960.00
Mary Lahmering	Stenographer—Lord Hall	960.00
*Eva Smith	Stenographer—Horticulture	160.00
*Alberta Williams	Stenographer—Art	213.33
Nora Peck	Stenographer—Dairying	960.00
Alice Moran	Stenographer—Chemistry	1,200.00
Lillian Moor	Stenographer—Mechanical Engineering	960.00
*Mary J. Hunter	Stenographer—Dairying	320.00
*Florence Courtright	Stenographer—Dairying	560.00
Louise Pitts	Stenographer—Law	960.00
Eleanor Kielmeyer Fisher	Stenographer—Zoology and Entomology	960.00
Dorothy Swan	Stenographer—Military Science	960.00
Loretta Meinertt	Stenographer—Commerce and Journalism	960.00
*Besse Neeff	Stenographer—Electrical Engineering	880.00
Eloise Terbrueggen	Stenographer—College of Agriculture	960.00
Luella Wright	Stenographer—Romance Languages... ..	960.00
Mrs. Mabel Vesper	Stenographer—College of Engineering	960.00
*Ellen G. Schwensen	Stenographer—Physics	320.00
Helen L. Smith	Stenographer—College of Education... ..	960.00
Eunice E. Evans	Stenographer	960.00
*Mary Scheidegger	Stenographer	800.00
LeEvelyn Gillam	Stenographer—Anatomy and Pathology	960.00
Hazel M. Monett	Stenographer—Homeopathic Medicine	960.00
Mina Kennedy	Stenographer—Industrial Arts	960.00
*Avis E. Allen	Clerk—Dairy	640.00
Lillian Timmons	Stenographer—College of Education:.. ..	960.00
Marie J. Combs	Stenographer—College of Arts	980.00
M. Helen Pugh	Stenographer—College of Engineering	1,020.00
Ina D. Shirk	Stenographer—Animal Husbandry	960.00
Cordelia Whitehead	Stenographer	450.00
Helen Shacklett	Stenographer	900.00
*Arline Everitt	Stenographer	560.00
*Marie Kuglen	Stenographer—Home Economics	213.33
Marie Hoffman	Stenographer—Rural Economics	480.00
Cecelia Ryan	Stenographer—Farm Crops	480.00
Inez Biddle	Stenographer—Agricultural Chemistry	480.00
Margaret Rose	Stenographer—State St. Dispensary	480.00
Mary E. Nangle	Stenographer—Chemistry	960.00
*Ruth Giesen	Clerk—Physical Education	120.00
*Martha Okey	Stenographer—Horticulture	880.00
*Edna G. Hale	Stenographer—Commerce and Journalism	904.61
*Anne G. Bierman	Stenographer—Physical Education	760.00
*Ruth Harrington	Stenographer—Art	720.00
*Blanche M. Seddon	Stenographer—Educational Research.. ..	575.00
*Lucille Berry	Stenographer—Military Science	395.19
*Bessie M. Freet	Stenographer—Home Economics	600.00
*Alberta Williams	Stenographer—Physics	606.15

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
*Marian McComas	Stenographer—Educational Research..	400.00
*Gladys Everitt	Stenographer—Psychology	400.00
*Edna C. Earle	Stenographer	75.00
*Alice B. Maltby	Stenographer—College of Medicine ...	337.50
*Alice Gillam	Stenographer—Dairy	320.00
*Treva Silver	Stenographer—Dairy	300.00
*Eulalia Chaney	Stenographer—Military Science	225.00
*Lucille E. Braun	Stenographer—College of Medicine ...	150.00
*Wanda Rittenhouse	Stenographer—Educational Research..	118.27
*Dorothea Lyford	Stenographer—Electrical Engineering.	106.73
William C. McCracken ...	Superintendent of Buildings and Grounds and Chief Engineer	4,000.00
Earl R. Cohee	Clerk in Chief Engineer's Office	1,320.00
*Claire E. Elk	Stenographer in Chief Engineer's Office	932.31
Thomas D. Banks	Superintendent of Power Plant	3,600.00
John P. Covan	Master Mechanic in Light, Heat, and Power	2,400.00
W. H. Case	Assistant Chief Engineer in Light, Heat, and Power	1,920.00
Fred Brewer	Engineer in Light, Heat, and Power..	1,800.00
W. D. Hicks	Engineer in Light, Heat, and Power..	1,800.00
R. M. Ronk	Engineer in Light, Heat, and Power..	1,800.00
C. Ashenhurst	Fireman in Light, Heat, and Power..	1,350.00
S. Lowry	Fireman in Light, Heat, and Power..	1,350.00
*Frank Revels	Fireman in Light, Heat, and Power..	1,211.25
C. Woodford	Fireman in Light, Heat, and Power..	1,327.50
*James R. Roberts	Fireman in Light, Heat, and Power..	900.00
*Walter R. Allis	Fireman in Light, Heat, and Power..	900.00
I. C. Reasoner	Blacksmith in Light, Heat, and Power	1,500.00
Charles Reasoner	Helper to Blacksmith in Light, Heat, and Power	1,140.00
Wm. Anderson	Craneman in Light, Heat, and Power..	1,800.00
*F. S. Allison	Craneman—Night, Light, Heat, and Power	422.69
*Wm. Mollard	Crane Helper in Light, Heat, and Power	440.00
George E. Shepherd	Steam Fitter in Light, Heat, and Power	1,920.00
Earl H. Myers	Steam Fitter's Helper in Light, Heat, and Power	1,260.00
B. A. LeBay	Boiler Repair Man in Light, Heat, and Power	1,500.00
George Dillahunt	Electrician in Light, Heat, and Power	1,860.00
Earl Achey	Assistant Electrician in Light, Heat, and Power	1,584.62
C. T. Fippin	Assistant Electrician in Light, Heat, and Power	1,500.00
A. O. Kaiser	Auto Mechanic and Helper in Light, Heat, and Power	1,680.00
*Andrew Armstrong	Wiper in Light, Heat and Power	747.69

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
*James Mack	Steam Fitter in Light, Heat, and Power	1,650.00
*James H. Gregory	Fireman in Light, Heat, and Power...	887.02
*Lawrence Mack	Wiper in Light, Heat, and Power....	263.08
John Kraner	Carpenter in Betterment of Buildings	1,920.00
E. I. Martin	Carpenter in Betterment of Buildings	1,740.00
Philo Felker	Carpenter in Betterment of Buildings	1,740.00
R. C. Kaiser	Plumber in Betterment of Buildings..	2,400.00
*E. Inscho	Plumber's Assistant in Betterment of Buildings	1,568.03
James A. Huff	Plumber's Assistant in Betterment of Buildings	1,260.00
H. E. Truxall	Painter in Betterment of Buildings...	1,500.00
Max Lehman	Painter in Betterment of Buildings...	1,320.00
James Brain	Painter in Betterment of Buildings...	1,260.00
H. R. Johnson	Tinner in Betterment of Buildings...	1,600.00
*B. F. Talmadge	Truck Driver in Betterment of Buildings	333.32
*W. H. Beck	Plumber in Betterment of Buildings..	1,626.15
*Paul Davis	Painter in Betterment of Buildings..	153.85
*Charles G. Kalb	Truck Driver in Betterment of Buildings	660.27
*Walter Shott	Painter in Betterment of Buildings...	618.48
Earl Bilderback	Foreman of Campus	1,620.00
J. Fredo	Laborer in Roads and Grounds	1,080.00
L. Stewart	Laborer in Roads and Grounds	1,080.00
J. Hobert	Laborer in Roads and Grounds	1,080.00
James Stainbrook	Laborer in Roads and Grounds	1,080.00
John Rhone	Teamster in Roads and Grounds	1,080.00
Leo Moran	Truck Driver in Roads and Grounds ..	1,020.00
*C. W. O'Harra	Laborer in Roads and Grounds	1,017.69
A. Chesbro	Laborer in Roads and Grounds	1,080.00
*Robert Farrel	Laborer (Cadillac Driver) in Roads and Grounds	997.50
Frank Funk	Arborator in Roads and Grounds	950.00
William North	Day Policeman	1,350.00
H. S. Brown	Night Policeman	1,260.00
H. B. Case	Night Watchman	1,200.00
Alphonso Case	Night Watchman	1,200.00
T. P. Glidden	Night Watchman	1,200.00
*Nelson Bowman	Night Watchman	433.34
*Ellis Belcher	Night Watchman	365.38
C. D. Case	Night Watchman	1,200.00
J. T. Daniels	Night Watchman (retired)	480.00
W. F. Mahaffey	Night Watchman (retired)	480.00
*John Tordiff	Night Watchman	321.43
*Samuel Toy	Night Watchman	200.00
*C. F. Reasoner	Supervisor of Watchmen	478.57
*Benjamin Himebrook	Night Watchman	280.00
*O. D. Conaway	Night Watchman	220.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
John O'Rourke	Inspector of Buildings and Janitors...	1,500.00
C. M. Hicks	Repair and Handy Man	1,200.00
William Mutchmore	Custodian Medical Buildings	1,200.00
Wm. M. Penn	Janitor	1,140.00
Wm. M. Stahl	Janitor	1,140.00
Wm. Daehler	Janitor	1,140.00
Harry Chantler	Janitor	1,140.00
*O. E. Kiger	Janitor	760.00
A. D. Grayson	Janitor	1,140.00
S. A. Williams	Janitor	1,140.00
R. M. Moore	Janitor	1,140.00
George C. Denny	Janitor	1,140.00
Oliver Smith	Janitor	1,140.00
L. F. Jordan	Janitor	1,140.00
L. C. Ludlum	Janitor	1,140.00
W. Curry	Janitor	1,140.00
William Pohle	Janitor	1,140.00
*L. W. Richardson	Janitor	950.00
Robert Petrie	Janitor	1,140.00
Olaf Christensen	Janitor	1,140.00
J. R. Butler	Janitor	1,140.00
Ernest Long	Janitor	1,140.00
L. S. Hitchcock	Janitor	1,140.00
C. M. Shelton	Janitor	1,140.00
*Jack Foster	Janitor	950.00
Forest Spencer	Janitor	1,140.00
Frank McCarty	Janitor	1,140.00
John O. Kimbrough	Janitor	1,140.00
Elmer E. Smith	Janitor	1,140.00
*Porter Douglas	Janitor	617.25
*J. E. Kimbrough	Janitor	917.11
G. R. Pettibone	Janitor	1,140.00
Elmer E. McDowell	Janitor	1,140.00
M. Murphy	Janitor	1,140.00
Robert Hebron	Janitor	1,140.00
John M. Wallace	Janitor	1,140.00
Edward Watson	Janitor	1,140.00
W. W. Smith	Janitor	1,140.00
Richard Brandon	Janitor	1,080.00
M. N. Cook	Janitor	1,080.00
J. W. Brown	Janitor	1,080.00
George Hooley	Janitor	1,080.00
James Merrill	Janitor	1,080.00
E. J. Nutt	Janitor	1,080.00
*Nelson Bowman	Janitor	30.00
C. A. Hoppler	Janitor	1,080.00
*William Wallace	Janitor	857.70
Louis Trotter	Janitor	1,080.00
James Gormley	Janitor	1,080.00
Lou Cornett	Janitress	750.00

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
Jessie Haney	Janitress	750.00
*Carrie Dunning	Janitress	187.50
Elizabeth Rourke	Janitress	750.00
Charlotte Thum	Janitress	750.00
Mary Powers	Matron Rest Room	720.00
M. S. Harvey	Elevator Man	660.00
*Alfred Booker	Janitor	190.00
*James Ragland	Janitor	1,072.36
*Frank Muchmore	Janitor	968.26
*Clara Derflinger	Janitress	640.00
*Jennie Farrel	Janitress	570.00
*Edward Laird	Janitor	315.00
*C. F. Reasoner	Janitor	67.86
*John Tordiff	Janitor	454.64
*Charles A. Hopkins	Janitor	380.00
*William Rickner	Janitor	218.08
*Dan Brock	Janitor	235.00
*Francis C. Radford	Janitor	190.00
*Floyd Grayem	Janitor	153.46
Mrs. Myrtle Faught	Laundress	1,080.00
*Myrtle Trout	Laundress	125.00
*Belle Mitchell	Laundress	528.85
Edna Culbertson	Laundress	750.00
Bert Faught	Laundrer	800.00
*Emma Munyan	Laundress	612.98
*Dolly Gray	Laundress	221.15
J. N. Bradford	University Architect	3,700.00
H. F. Reichard	Chief Draftsman	2,880.00
C. F. Mayer, Jr.	Draftsman	2,500.00
A. H. Mickey	Superintendent of Construction	2,500.00
Coletta Kelly	Clerk in the Office of the University Architect	1,500.00
*F. E. Reibel	Draftsman	1,400.00
*Paul E. Crider	Draftsman	875.00
*Lucy S. Shad	Draftsman	525.00
*A. F. Deam	Draftsman	300.00
F. E. Whitehouse	Draftsman	1,312.50
H. E. Letson	Draftsman	1,800.00
Mary Louise Abbott	Draftsman	1,500.00
A. J. Friday	Draftsman	1,500.00
*Mary Lucille Charch ...	Draftsman	1,375.00
*Hans Liebau	Draftsman	2,008.08
D. J. Demorest	University Chemist	500.00

APPENDIX IV

THE WORK OF INSTRUCTORS—1921-1922

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
ACCOUNTING						
Elements of Accounting.....	139-40	3	407	139-40	3	390
Principles of Accounting.....	191	3	142	191	3	20
Principles of Accounting.....	.....	.....	.....	192	3	97
Cost Accounting.....	.....	.....	.....	172	3	104
Corporation Reports.....	189	2	58	.....	.....	.....
Income Tax Accounting.....	129	2	38	.....	.....	.....
Auditing.....	174	2	38	.....	.....	.....
Accounting Theory and Practice.....	193	4	38	.....	.....	.....
Accounting Theory and Practice.....	.....	.....	.....	194	4	38
Bank Accounting and Auditing.....	.....	.....	.....	190	2	40
*Municipal Finance and Accounts.....	.....	.....	.....	106	1	30
Totals.....	.....	.....	721	.....	.....	719
*Divided with Professor Walradt.						
AGRICULTURAL CHEMISTRY AND SOILS, DIVISION OF SOILS						
Elementary Soils—Laboratory.....	.....	.....	.....	150	2	159
Elementary Soils—Lecture.....	.....	.....	.....	152	3	159
Soil Fertility.....	153	3	44	.....	.....	.....
Soil Analysis.....	155	5	3	.....	.....	.....
Soil Physics.....	158	3	3	.....	.....	.....
Origin and Classification.....	.....	.....	.....	157	3	6
Research Work in Soils.....	201	3-10	4	202	3-10	4
Soil Seminary.....	203	1	3	204	1	4
Elementary (Short Course).....	53	5	7	.....	.....	.....
Winter Course (Eight Weeks).....	.....	.....	52	.....	.....	.....
AGRICULTURAL EDUCATION						
Teaching of Vocational Agriculture in Secondary Schools.....	101	3	23	102	3	18
Teaching of Vocational Agriculture in Secondary Schools.....	.....	.....	.....	101	3	11
Observation Teaching of Agriculture in Secondary Schools.....	103	3	17	103	3	15
Practice Teaching of Agriculture in Secondary Schools.....	104	3	6	104	3	20
AGRICULTURAL ENGINEERING						
Farm Engineering.....	101	4	72	101	4	80
Farm Structures.....	103	3	28	103	3	19
Drainage.....	.....	.....	.....	106	3	40
Farm Power.....	.....	.....	.....	107	4	57
Advanced Farm Machinery.....	110	3	24	.....	.....	.....
Special Problems.....	111	3-5	23	112	3-5	23
Advanced Field Machinery.....	.....	.....	.....	118	3	10
Farm Power.....	54	4	45	.....	.....	.....
Farm Machinery.....	52	4	71	.....	.....	.....
Drainage.....	55	4	19	.....	.....	.....
Winter Course Farm Mechanics.....	.....	4	46	.....	.....	.....
AMERICAN HISTORY						
History of the United States (1763-1840).....	101	3	734	101	3	137
History of the United States (1840-1920).....	102	3	88	102	3	547
General Survey of United States History.....	105	3	33	106	3	23
Constitutional History of United States to 1837.....	107	2	31	.....	.....	.....
Constitutional History of United States since 1837.....	.....	.....	.....	.....	.....	.....
Early Political Parties in the United States.....	.....	.....	.....	108	2	27
Political Parties in the United States (1852-1920).....	109	2	19	.....	.....	.....
.....	.....	.....	.....	110	2	22

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
American Diplomacy to Close of Civil War	113	3	9	.....	.....	.....
American Diplomacy Since the Civil War .....	.....	.....	.....	114	3	16
History of Canada	117	2	12	118	2	9
Introduction to Historical Research.....	119	2	10	.....	.....	.....
The Teaching of American History.....	121	2	14	.....	.....	.....
Recent History of the United States (1870-1897)	123	3	43	.....	.....	.....
Recent History of the United States (1897-1921) .....	.....	.....	.....	124	3	43
Colonial Period of Latin America.....	125	2	16	.....	.....	.....
History of the Latin American Republic.....	213	2	1	126	2	16
Graduate Seminary in Recent History.....	215	2	3	214	2	1
Special Problems in Western History.....	.....	.....	.....	216	2	2
Special Problems in Recent History of South	219	2	1	220	2	1
Great American Historians .....	.....	.....	.....	222	2	4
ANATOMY						
Human Anatomy	121	6	90	122	4	84
Applied Human Anatomy.....	127	3	55	.....	.....	.....
Histology and Embryology.....	133	6	90	.....	.....	.....
Histology and Embryology.....	.....	.....	.....	134	4	84
Neurology .....	.....	.....	.....	136	4	84
Comparative Anatomy of the Vertebrates.....	101	3	10	102	3	10
Vertebrate Embryology	103	3	14	104	3	14
Anatomy of the Frog.....	105	3	1	106	3	1
Introductory Neurology	107	3	5	108	3	5
Elementary Comparative Anatomy of Vertebrate .....	.....	.....	.....	118	3	120
Comparative Neurology	109	3	3	110	3	3
Proseminary	111	1	4	112	1	4
Cytology	113	3	3	114	3	3
Advanced Comparative Anatomy.....	119	3	0	120	3	0
Embryology .....	.....	.....	.....	142	4	40
Histology of the Domesticated Animals	143	5	40	.....	.....	.....
Human Anatomy	125	4	110	126	4	100
Histology	139	3	87	140	2	87
Anatomy of the Eye	145	4	6	.....	.....	.....
Anatomy—Applied .....	.....	.....	.....	181	2	100
Dental Embryology .....	.....	.....	.....	164	1	87
Special Advanced Anatomy .....	.....	.....	.....	162	3	2
Vertebrate Embryology	201	3	4	202	3	4
ANIMAL HUSBANDRY						
Elementary Live Stock Judging	135	4	122	135	4	67
Principles of Feeding	137	3	51	137	3	125
Horse Production and Management	139	4	38	.....	.....	.....
Beef Cattle Production and Management	141	4	63	.....	.....	.....
Swine Production and Management.....	.....	.....	.....	143	4	98
Dairy Cattle Production and Management .....	.....	.....	.....	145	4	37
Sheep Production and Management .....	.....	.....	.....	147	4	39
Advanced Live Stock Judging	151	3	25	.....	.....	.....
Live Stock Markets and Marketing	155	3	23	.....	.....	.....
Breeding Farm Animals .....	.....	.....	.....	157	4	57
Research and Thesis	163	2-5	28	164	2-5	42
Research Work .....	.....	.....	.....	202	10	4
Types and Breeds of Live Stock .....	.....	.....	.....	132	3	18
Types and Breeds of Live Stock	51	4	76	52	4	77
Dairy Cattle Production	53	4	25	.....	.....	.....
Feeding Live Stock .....	.....	.....	.....	54	4	56
Breeding Live Stock .....	.....	.....	.....	56	4	112

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
APPLIED OPTICS						
Theoretical Optics	107	4	7	108	5	6
Theoretical Applied Optics	133	4	5	134	4	5
Vision Optics	115	2	7	116	4	6
Mechanical Optics	110	2	4	129	2	4
Clinical Practice	147	4	4	148	4	4
ARCHITECTURE						
Historic Ornament	147	4	4	.....	.....	.....
History Renaissance Architecture	135	2	29	.....	.....	.....
Elements of Architecture	131	2	51	132	2	46
History Medieval Architecture .....	.....	.....	.....	134	3	38
Shades, Shadows, and Perspective .....	.....	.....	.....	124	3	34
History Ancient Architecture	133	3	50	.....	.....	.....
Principles of Architectural Composition	113	2	25	.....	.....	.....
History of Modern Architecture .....	.....	.....	.....	136	3	14
Wood Construction .....	.....	.....	.....	150	5	22
Design	141	5	28	141	5	.....
Design	142	5	3	142	5	28
Design	143	5	18	143	5	1
Design	144	5	2	144	5	10
Design	145	5	1	145	5	2
Design	146	5	.....	146	5	.....
Thesis	118	5	1	118	5	3
Fire Protection .....	.....	.....	.....	123	2	13
Masonry	151	3	14	.....	.....	.....
Plumbing	153	2	18	.....	.....	.....
Photography	111	2	31	111	2	70
Professional Practice .....	.....	.....	.....	116	4	12
Sanitary Plumbing	117	1	5	.....	.....	.....
Photography .....	.....	.....	.....	122	2	8
ASTRONOMY						
General Astronomy	101	3	181	.....	.....	.....
Astronomy, Geodesys, and Least Squares	104	3	40	.....	.....	.....
Introduction to Celestial Mechanics	111	3	3	.....	.....	.....
General Astronomy .....	.....	.....	.....	102	3	141
Astronomy, Geodesys, and Least Squares .....	.....	.....	.....	105	3	30
Introduction to Celestial Mechanics .....	.....	.....	.....	112	3	3
BACTERIOLOGY						
Bacteriology for Short Course	.....	.....	.....	.....	.....	.....
Pharmacy .....	.....	.....	.....	102	2	52
General Bacteriology .....	.....	.....	.....	.....	.....	.....
Pathogenic Bacteriology	107	4	164	.....	.....	.....
Dairy Bacteriology .....	.....	.....	.....	108	4	75
Water, Sewage, and Sanitation .....	.....	.....	.....	110	2	13
Serum Therapy .....	.....	.....	.....	114	4	13
Serum Therapy	117	2	22	.....	.....	.....
Pathogenic Protozoa .....	.....	.....	.....	118	4	30
Special Problems in Dairy Bacteriology .....	.....	.....	.....	120	2	11
Special Problems in Soil Bacteriology	121	5	2	.....	.....	.....
Advanced Technique in Pathogenic Bacteriology .....	.....	.....	.....	124	5	1
Advanced Technique in Pathogenic Bacteriology	125	4	13	.....	.....	.....
Veterinary Bacteriology .....	.....	.....	.....	126	4	12
Veterinary Bacteriology	131	4	14	.....	.....	.....
Medical Bacteriology .....	.....	.....	.....	132	4	15
Medical Bacteriology	141	7	30	.....	.....	.....
Dental Bacteriology .....	.....	.....	.....	141	7	25
Research .....	.....	.....	.....	150	4	82
Summer Session 1921, General and Path.—35 .....	.....	.....	.....	202	4	4
BOTANY						
General Botany	101	3	700	102	3	578
Plant Anatomy .....	.....	.....	.....	108	3	1

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
General Plant Pathology .....	.....	.....	.....	116	3	24
Plant Ecology	117	3	11	118	3	9
Local Flora .....	.....	.....	.....	120	3	5
Plant Genetics	121	3	13	.....	.....	.....
Plant Physiology	125	4	31	126	4	27
Plant Pathology	127	4	24	123	4	20
Principles of Taxonomy .....	.....	.....	.....	130	.....	2
Minor Problems	133	3	12	134	3	15
Plant Institute (Seminary)	137	1	11	138	1	11
Research	205	5	5	206	5	5
Research	207	5	2	208	5	2
The Teaching of Botany .....	.....	.....	.....	150	3	3
Economic Botany .....	.....	.....	.....	155	3	4
BUSINESS ORGANIZATION						
Factory Organization and Management..	107-8	3	46	107-8	3	30
Principles of Salesmanship	109	3	106	.....	.....	.....
Wholesaling and Retailing .....	.....	.....	.....	110	2	71
Office Organization and Management...	113	3	39	113	3	16
Business Communication	114	2	112	114	2	80
Time and Motion Study (not given) ..	.....	.....	.....	.....	.....	.....
Stock Exchange and Speculation	127	2	80	.....	.....	.....
Investments .....	.....	.....	.....	123	2	108
Cost Accumulation and Analysis .....	.....	.....	.....	130	.....	26
Business Law	149-50	3	328	149-50	3	329
Banking and Foreign Exchange .....	.....	.....	.....	154	3	183
Property Insurance .....	.....	.....	.....	158	2	33
Exporting and Importing	161	3	32	.....	.....	.....
Exporting and Importing .....	.....	.....	.....	162	3	27
Industrial Relations .....	.....	.....	.....	166	3	37
Railway Organization and Finance .....	.....	.....	.....	168	3	17
Principles of Advertising .....	.....	.....	.....	175	3	73
Public Utility Accounts and Statistics (not given) .....	.....	.....	.....	.....	.....	.....
Business Statistics .....	.....	.....	.....	178	3	51
Marketing	185	3	99	.....	.....	.....
Marketing .....	.....	.....	.....	186	3	118
Railway Accounts and Statistics	187	3	11	.....	.....	.....
Railway Traffic Management .....	.....	.....	.....	188	2	48
CERAMIC ENGINEERING						
Occurrence and Properties of Clays	141	3	14	.....	.....	.....
Winning Preparation and Forming .....	.....	.....	.....	142	3	16
Drying and Burning	143	3	12	.....	.....	.....
Bodies Glazes and Colors .....	.....	.....	.....	144	3	12
Refractories and Furnaces .....	.....	.....	.....	146	3	23
Ceramic Calculations	105	3	14	.....	.....	.....
Physical and Chemical Measurements of Clay .....	.....	.....	.....	108	4	14
Junior Inspection Trip .....	.....	.....	.....	133	.....	12
Laboratory Work in Ceramics	111	5	16	.....	.....	.....
Laboratory Work in Ceramics	113	5	13	112	5	16
Ceramic Designing .....	.....	.....	.....	114	5	14
Ceramic Designing .....	.....	.....	.....	116	4	11
Thesis	201	4-6	2	201	3	1
Research Work .....	.....	.....	.....	202	4-6	2
Testing of Clays with Reference to Industrial Uses	203	2	1	.....	.....	.....
Advanced Experimental Work	207	3	1	207	4	1
Advanced Experimental Work	208	4	1	208	3	1
Special Ceramic Research .....	.....	4	1	.....	.....	.....
CHEMISTRY						
Elementary Chemistry	105	4	590	.....	.....	.....
Elementary Chemistry and Qualitative Analysis .....	.....	.....	.....	106	4	537
General Chemistry	109	4	673	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
General Chemistry and Qualitative Analysis .....	.....	.....	.....	110	4	585
Advanced General Chemistry	113	2	115	114	2	80
Quantitative Analysis	119	4	117	120	4	98
Chemical Engineering Work No. 125 .....	.....	.....	.....	.....	.....	.....
Organic Chemistry (Home Economics)	127	2	89	128	.....	82
The Teaching of Chemistry .....	.....	.....	.....	132	2	8
The Reading of Chemical Literature .....	.....	.....	.....	136	2	21
Chemical Engineering Thesis .....	.....	.....	.....	140	4	22
Organic Chemistry (Pre-Medical)	150	3-5	147	.....	.....	.....
Organic Chemistry	151	2	77	152	2	80
Organic Chemistry (Laboratory)	153	2 or 3	71	154	2 or 3	63
Quantitative Organic Analysis	155	2	11	.....	.....	.....
Qualitative Organic Analysis .....	.....	.....	.....	156	2	25
Physical Chemistry	157	3	67	158	3	32
Physical Chemistry (Laboratory)	161	2 or 3	17	161	2 or 3	17
Physical Chemistry (Biochemical) .....	.....	.....	.....	164	2	57
Quantitative Analysis	165	2	30	.....	.....	.....
Gas Analysis	167	3 to 5	9	.....	.....	.....
Advanced Qualitative Analysis .....	.....	.....	.....	168	3 to 5	23
Advanced Quantitative Analysis	169	3 to 5	1	.....	.....	.....
Chemical Bibliography	171	1	39	.....	.....	.....
Chemical Biography .....	.....	.....	.....	173	1	42
Water Analysis .....	.....	.....	.....	176	3	44
Industrial Chemistry	177	2	46	178	2	45
Chemical Engineering Inspection Trip Nos. 181-182-184-74 in Number .....	.....	.....	.....	.....	.....	.....
Industrial Chemistry	185	3	42	.....	.....	.....
Industrial Chemistry .....	.....	.....	.....	186	2	42
*Physical Chemistry (Ceramics) (Took work with No. 157)	159	3	11	.....	.....	.....
*Quantitative Analysis	121	4	21	.....	.....	.....
Inorganic Preparations	187	3	22	187	3	16
The Rare Elements	192	2	22	.....	.....	.....
Applied Electrochemistry (Not given) ..	.....	.....	.....	194	2	.....
Colloid Chemistry .....	.....	.....	.....	196	2	26
Physical Chemistry	201	3	72	202	3	16
Advanced Organic Chemistry	203	2	23	204	2	27
Advanced Organic Preparations	205	2 or 3	13	206	2 or 3	10
Advanced Inorganic Preparations	209	3	2	210	3	3
Historical Chemistry (Not given in 1921-22) .....	.....	.....	.....	.....	.....	.....
Seminary in Organic Chemistry .....	.....	.....	.....	213	2	.....
Seminary in Organic Chemistry (Not given in 1921-22)	217	2	.....	215	2	23
Seminary in Organic Chemistry (Sum- mer session) 2 credit hours, No. 218 ..	.....	.....	.....	.....	.....	.....
Seminary in Inorganic Chemistry .....	.....	.....	.....	221	2	9
Seminary in Physical Chemistry	224	2	18	.....	.....	.....
Seminary in Industrial Chemistry	225	2	16	226	2	18
Chemical Research	235	5 to 10	17	236	5 to 10	40
Seminary in Analytical Chemistry	239	2	4	240	3	8
Advanced Industrial Chemistry	241	3 to 5	10	242	3 to 5	6
Chemical Colloquium (No specific credit) ..	.....	.....	.....	.....	.....	.....
CIVIL ENGINEERING						
Land Surveying	101	4	69	.....	.....	.....
Land Surveying Field Practice	101a	1	65	.....	.....	.....
Topographic Drawing	103	2	78	.....	.....	.....
Topographic Surveying	105	3	37	.....	.....	.....
Applied Descriptive Geometry	107	2	41	.....	.....	.....
Sanitary Engineering	109	3	37	.....	.....	.....
Bridge Design	113	4	29	.....	.....	.....
Masonry Construction	115	3	35	.....	.....	.....
Cement and Concrete	118	2	11	.....	.....	.....
Thesis	119	1	.....	122	3	36
Trosses	124	3	56	.....	.....	.....
Tall Buildings	125	3	43	.....	.....	.....
Cement and Concrete	130	2	29	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Surveying	131	5	10	.....	.....	.....
Municipal Engineering	139	3	7	.....	.....	.....
Special Graduate Work	200	3	1	200	3	1
Land Surveying, Trailer Section .....	.....	.....	.....	101	4	16
Land Surveying Field Practice, Trailer Section .....	.....	.....	.....	101a	1	7
Topographic Drawing, Trailer Section .....	.....	.....	.....	103	3	5
Railroad Surveying .....	.....	.....	.....	102	4	70
Railroad Surveying Field Practice .....	.....	.....	.....	102a	1	70
Road and Pavements .....	.....	.....	.....	106	3	38
Timber Construction .....	.....	.....	.....	108	3	36
Stresses in Structure .....	.....	.....	.....	110	4	44
Railway Location .....	.....	.....	.....	112	4	13
Advanced Bridge Design .....	.....	.....	.....	114	4	13
Masonry Structures and Contracts .....	.....	.....	.....	116	3	30
Water Supply .....	.....	.....	.....	117	3	35
Trusses .....	.....	.....	.....	124	3	47
Timber and Masonry .....	.....	.....	.....	128	2	84
Plane Surveying .....	.....	.....	.....	128	2	118
Concrete Design .....	.....	.....	.....	129	3	43
Cement and Concrete .....	.....	.....	.....	130	2	14
Sanitary and Water Supply Design .....	.....	.....	.....	140	3	3
Summer Surveying Camp (104-4-26) (Held in W. Va. from June 10th to July 15th, 1921) .....	.....	.....	.....	.....	.....	.....
Summer Surveying Camp (111-4-14) .....	.....	.....	.....	.....	.....	.....
DAIRYING						
Principles of Dairying	101	4	96	101	4	71
Farm Dairying .....	.....	.....	.....	102	4	28
City Milk Supply .....	.....	.....	.....	103	2-4	33
Buttermaking	105	4	16	105	4	12
Cheese Making	107	3	7	107	3	2
Ice Cream Making .....	.....	.....	.....	110	2	11
Dairy Mechanics	111	1	2	.....	.....	.....
Dairy Buildings	115	2	13	.....	.....	.....
Milk Condensing .....	.....	.....	.....	116	2	5
Proseminary	119	1	4	120	1	2
Advanced Dairying	113	2-5	17	114	2-5	10
Special Problem Dairy Manufacturing	125	2-5	3	125	2-5	5
Advanced Dairying (Graduate)	202	.....	2	202	.....	2
Dairy Production and Manufacturing	53	3	64	.....	.....	.....
Dairy Farm Management	57	3	19	58	3	76
Special Dairy Course .....	.....	.....	38	.....	.....	.....
Winter Course in Agriculture .....	.....	.....	26	.....	.....	.....
DENTISTRY						
Anatomy (taken by Freshmen and Sophomores)	125	4	82	131	2	81
Chemistry	150	5	62	126	4	81
Drawing	101	2	5	118	3	13
Prosthesis ((132) given each semester this year)	132	1	79	106	4	13
Operative	101	4	11	132	2	7
.....	.....	.....	.....	102	4	15
.....	.....	.....	.....	146	3	13
.....	.....	.....	.....	154	1	79
Anatomy	139	3	78	140	2	77
Operative	109	2	76	110	2	73
.....	103	1	77	104	2	77
Prosthesis	105	1	77	106	1	77
English	105	2	63	spl	2	5
Bacteriology .....	.....	.....	.....	150	4	73
.....	.....	.....	.....	128	3	63
Physiology	127	3	68	134	2	71
Pathology	135	3	66	144	2	60
Prosthesis	107	3	65	112	3	62
Prosthesis	117	2	66	118	2	63

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Operative	131	1	67	132	2	63
Operative	135	3	67	118	2	63
Operative .....	.....	.....	.....	124	1	61
Operative	125	3	66	126	3	63
Operative	139	2	18	140	2	18
Operative	141	1	19	142	1	19
Operative	137	2	18	138	2	18
Operative	127	5	19	128	2	18
Operative	121	2	20	122	6	19
Operative	133	2	18	134	1	20
Prosthesis	115	2	18	116	2	18
Prosthesis	119	2	19	120	2	18
DISPENSARIES						
Dispensary Clinics	103	2	33	104	2	32
ECONOMIC AND SOCIAL GEOGRAPHY						
Principles of Social Geography	132	3	504	132	3	27
Economic Geography	133	3	52	133	3	447
Conservation of Natural Resources .....	.....	.....	.....	104	2	53
The Geography and History of Commerce	159	3	80	.....	.....	.....
World Industries and Commerce .....	.....	.....	.....	123	3	70
The Geography and Commerce of the United States .....	.....	.....	.....	.....	.....	.....
Economic and Social Geography of Europe	122	3	111	184	3	134
Economic and Social Geography of Ohio	121	2	18	.....	.....	.....
Geography and Resources of South America	103	2	16	.....	.....	.....
Graduate Seminary	207	2	1	208	2	2
Corporation Reports	189	2	125	.....	.....	.....
ECONOMICS						
Principles of Economics	101	3	788	102	3	531
Principles of Economics	102	3	170	101	3	275
Public Utilities	105	2	46	.....	.....	.....
Profits, Wages and Prices	111	2	20	.....	.....	.....
Women in Industry	119	3	20	.....	.....	.....
The Household .....	.....	.....	.....	120	.....	.....
Socialism .....	.....	.....	.....	124	3	50
Principles and Problems of Economics	135	3	15	.....	2	.....
Public Finance	141	2	122	136	3	11
Problems of Taxation .....	.....	.....	.....	.....	.....	.....
Financial History of the United States	147	2	47	144	2	47
Money and Credit	153	3	180	148	2	35
Corporation Economics	163	3	188	163	3	140
Labor Legislation	165	3	29	.....	.....	.....
Industrial Relations .....	.....	.....	.....	166	3	37
Transportation Economics	167	3	90	167	3	150
Economic Statistics	177	3	61	.....	.....	.....
Economic History of the United States	181	3	9	182	3	4
Industrial Combinations and Monopolies .....	.....	.....	.....	183	3	51
History of Economic Thought	201	2	12	202	2	11
Seminary in Economics	207	2	15	208	2	15
Research in Labor Problems .....	.....	.....	.....	210	2	1
Research in Transportation and Public Utilities	211	2	2	212	2	2
Research in Banking and Finance	213	2	.....	214	.....	.....
Research in Economic Theory	217	2	10	218	2	.....
ELECTRICAL ENGINEERING						
Electrical Engineering (2 sections)	101	5	83	.....	.....	.....
Electrical Engineering	103	3	22	.....	.....	.....
Direct Current Machinery (3 sections) .....	.....	.....	.....	104	5	69
Applications of Electricity (2 sections) .....	.....	.....	.....	106	1½	64
Alternating Current Circuits and Machinery (3 sections) .....	.....	.....	.....	108	1½	64

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Alternating Current Machinery	109	3	29	.....	.....	.....
Alternating Current Laboratory	111	3	29	.....	.....	.....
Advanced Alternating Current Laboratory .....	.....	.....	.....	112	3	27
Electric Railways	113	3	8	.....	.....	.....
Telephony	115	3	12	.....	.....	.....
Electric Illumination	117	3	29	.....	.....	.....
Wireless Telegraphy	119	3	5	.....	.....	.....
Electrical Design	121	3	27	.....	.....	.....
Advanced Electrical Design .....	.....	.....	.....	122	2	5
Electrical Transmission and Distribution .....	.....	.....	.....	124	3	28
Special Reading, Elec. Transmission	125	3	3	126a	3	2
Thesis	127	1	23	128	5	22
Inspection Trip, Senior and Junior .....	.....	.....	.....	130	.....	69
Reading Course .....	.....	.....	.....	134	.....	12
Hyperbolic Functions .....	.....	.....	.....	140	2	6
Electrical Equipment .....	.....	.....	.....	142	2	11
Advanced Alternating Current Laboratory	205	2	1	.....	.....	.....
Research Work .....	.....	.....	.....	207	3	1
ENGINEERING DRAWING						
Elementary Mechanical Drawing	101	2	561	.....	.....	.....
Mechanical Drawing .....	.....	.....	.....	102	3	445
Descriptive Geometry	103	3	274	.....	.....	.....
Machine Drawing .....	.....	.....	.....	104	3	127
Descriptive Geometry	105	3	68	.....	.....	.....
Advanced Descriptive Geometry .....	.....	.....	.....	106	3	69
Descriptive Geometry	107	3	39	.....	.....	.....
Practical Descriptive Geometry	108	3	5	.....	.....	.....
Technical Drawing	110	2	2	110	2	87
Technical Drawing	111	2	174	.....	.....	.....
Technical Drawing	121	2	44	122	2	40
Mechanical Drawing	125	2	99	125	2	74
Mechanical Drawing	127	1½	148	128	1½	114
Elementary Drawing	129	1	2	.....	.....	.....
Freehand Lettering and Technical Sketching .....	.....	.....	.....	130	2	7
The Teaching of Mechanical Drawing	131	3	9	.....	.....	.....
The Teaching of Mechanical Drawing .....	.....	.....	.....	132	3	5
Drawing for Manual Art Teachers	139	4	7	.....	.....	.....
Drawing for Manual Art Teachers .....	.....	.....	.....	140	3	7
Industrial Drawing and Slide Rule	145	2	16	.....	.....	.....
ENGLISH						
Paragraph Writing—Description and Narration	101	2	1832	101	2	265
Paragraph Writing—Exposition and Argumentation	104	2	250	104	2	1801
Descriptive and Narrative Writing	105	2	127	.....	.....	.....
Expository Writing .....	.....	.....	.....	106	2	103
Advanced Composition	107	2	42	.....	.....	.....
Advanced Composition .....	.....	.....	.....	108	2	46
History of the English Language	127	2	194	.....	.....	.....
English Words .....	.....	.....	.....	128	2	211
Introduction to American Literature	132	3	362	133	3	346
The English Bible	129	3	13	139	3	27
Nineteenth Century Poetry	141	3	218	142	3	185
Nineteenth Century Prose	145	3	27	146	3	278
Literature and Composition	143	2	21	144	2	23
English Medieval Literature to Chaucer	154	3	.....	.....	.....	.....
Chaucer and his Principal Contemporaries and Successors .....	.....	.....	.....	153	3	24
The Novel—Richardson to Scott	155	3	63	.....	.....	.....
The Novel—Dickens to Meredith .....	.....	.....	.....	156	3	85
Versification	157	3	22	.....	.....	.....
The Short Story .....	.....	.....	.....	158	3	35
Milton and his Contemporaries	159	2	19	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
The Age of Dryden .....	.....	.....	.....	160	2	42
Eighteenth Century Poetry and Prose.....	136	3	39	.....	.....	.....
The Life and Times of Dr. Samuel Johnson .....	.....	.....	.....	137	3	49
Shakespeare—Histories and Tragedies ..	167	3	110	.....	.....	.....
Shakespeare—Comedies and Romances .....	.....	.....	.....	168	3	128
Recent and Contemporary Drama.....	169	2	27	.....	.....	.....
Shakespeare's Contemporaries and Successors in Drama	171	2	15	.....	.....	.....
The Teaching of English	181	2	56	.....	.....	.....
History of the Short Narrative in English	201	2	11	.....	.....	.....
Problems in the Drama .....	.....	.....	.....	206	2	15
The Later Novel	207	2	16	.....	.....	.....
The Later Poetry .....	.....	.....	.....	208	2	21
The Celtic Renaissance .....	.....	.....	.....	212	2	24
Studies in Seventeenth Century Literature	215	2	5	.....	.....	.....
Studies in Eighteenth Century Literature.....	.....	.....	.....	218	2	5
Discussion of Dissertations	219	2	7	.....	.....	.....
Discussion of Dissertations .....	.....	.....	.....	220	2	12
Early Popular Drama	221	7	2	.....	.....	.....
PUBLIC SPEAKING						
Public Speaking	101	2	101	.....	.....	.....
Debating .....	.....	.....	.....	102	2	142
Advanced Argumentation and Debate.....	107	2	13	108	2	11
Advanced Debate Practice .....	.....	.....	.....	110	2	16
Extempore Speaking .....	.....	.....	.....	114	2	16
The Forms of Public Address	125	2	8	126	2	8
Special Problems in the Theory of Public Speaking	151	2	2	152	2	2
EUROPEAN HISTORY						
Medieval History	101	3	379	101	3	89
Modern History from 1500 A. D.	102	3	42	102	3	324
History of England	103	3	46	104	3	68
Greek History	105	3	30	.....	.....	.....
Roman History .....	.....	.....	.....	106	3	32
The Age of the Renaissance, 1250 to 1500 A.D.	109	2	28	.....	.....	.....
The Period of the Reformation .....	.....	.....	.....	110	2	25
Medieval Civilization	107	2	12	108	2	9
Constitutional History of England	113	3	5	114	3	4
History of France	121	2	63	122	2	47
Europe from 1815 to 1920	123	3	15	124	3	21
Ancient and Medieval Civilization	125	3	8	126	3	8
Europe and Asia—The Far Eastern Question .....	.....	.....	.....	118	2	16
The World War—Its Causes, Issues, and Results	131	3	81	132	3	70
The History of the Expansion of Europe.....	141	3	14	142	3	12
The Teaching of European History .....	.....	.....	.....	152	2	14
England in the Tudor and Stuart Period.....	153	3	10	154	3	9
Seminary in European History	203	2-5	3	204	2-5	3
FARM CROPS						
Field Crop Production	101	4	40	101	4	41
Cereal Crops	109	4	59	.....	.....	.....
Forage Crops .....	.....	.....	.....	111	4	30
Special Crops .....	.....	.....	.....	112	2	7
Plant Breeding .....	.....	.....	.....	113	3	10
Minor Investigations	119	.....	6	120	2-4	2
Research	201	5-10	2	202	5-10	2
Seminary	203	1	3	204	1	3

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
FINE ARTS						
Appreciation of Art	119	1	218	119	1	197
Costume Design	121	2	81	121	2	32
Elementary Drawing	131	2	191	131	2	41
Elementary Drawing	132	2	22	132	2	85
Advanced Drawing	133	2	29	133	2	19
Drawing from Life	134	3	15	134	3	13
Water Color Painting	136	2	17	136	2	16
Advanced Water Color Painting	137	3	.....	137	3	14
Oil Painting	138	3	12	138	3	5
Advanced Oil Painting	139	3	4	139	3	4
Elementary Design	141	2	33	141	2	141
Advanced Design	142	3	11	142	3	14
Specialized Design .....	.....	.....	.....	143	3	6
Illustrative Drawing	147	2	17	148	2	13
History of Classic Art	151	3	20	.....	.....	.....
History of Medieval Art .....	.....	.....	.....	152	3	20
History of Renaissance Art	153	3	16	.....	.....	.....
Modern Painting and Sculpture	160	3	16	.....	.....	.....
Modelling	170	2	10	170	2	9
Advanced Modelling .....	.....	.....	.....	171	3	4
Theory and Practice of Teaching Art	117	3	4	.....	.....	.....
Art of China and Japan .....	.....	.....	.....	157	3	12
Thesis in Art History	158	5	2	.....	.....	.....
GEOLOGY						
Economic Geology	167	3	14	170	3	16
Physical Geology (Engineers)	168	3	43	168	3	31
Physical Geology (Engineers) .....	.....	.....	.....	160	5	20
General Geology (Arts—Education)	119	4	299	120	4	253
Geology (Agriculture)	151	3	96	151	3	120
Glacial Geology .....	.....	.....	.....	106	3	19
Physiography of the United States	116	3	22	.....	.....	.....
Invertebrate Paleontology	107	3	4	108	3	3
Special Problems	141d	3	1	142d	3	1
Stratigraphic Geology of Ohio	105	3	7	.....	.....	.....
Structural and Dynamical Geology	103	3	12	.....	.....	.....
Historical Geology .....	.....	.....	.....	104	3	13
Advanced Paleontology	143	3	3	144	3	3
Special Problems	141a	3	1	142b	3	1
Research Work	203	3	2	204	3	2
Introduction to Geography	121	3	83	.....	.....	.....
Geography of North America .....	.....	.....	.....	122	3	39
Teaching of Geography .....	.....	.....	.....	128	3	20
Meteorology .....	.....	.....	.....	101	3	4
GERMAN						
Elementary German	101	4	200	101	4	95
Elementary German	102	4	29	102	4	145
Intermediate German	103	4	64	103	4	27
Classical Reading .....	.....	.....	.....	104	4	36
Science Reading .....	.....	.....	.....	106	4	15
Advanced German	107	4	6	108	4	13
Schiller	117	2	5	118	2	3
Conversation and Composition	131	2	3	132	2	3
Phonetics	175	2	6	.....	.....	.....
Proseminary—Goethe's Faust	179a	2	7	.....	.....	.....
Proseminary—Lessing .....	.....	.....	.....	180a	2	4
Minor Investigation	181	2	2	181	2	4
GREEK						
Beginners' Greek	101	4	18	102	4	13
Greek Art	115	2	21	116	2	22
Historical Greek Grammar	121	2	1	122	2-4	2
Principles of the Historical Study of Language	141	2	5	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
HISTORY AND PHILOSOPHY OF EDUCATION						
History of Elementary Education	50	3	44	51	3	42
History of Education (to 18th Century) ..	101	3	181	102	3	171
History of (Modern) Education	102	3	16	101	3	40
Comparative Education	107	2	4	108	2	3
History of Education in the United States	109	2	5	110	2	4
Seminar in the History of Education....	201	2	3	202	2	5
HOME ECONOMICS						
Textiles	111	2	118	112	2	99
Foods	101	5	98	102	5	95
Sanitation	104	3	37	104	3	23
Dress	113	3	53	113	3	31
Dress .....	.....	.....	.....	116	3	38
The House	118	3	16	118	3	46
Household Management	119	4	21	119	4	37
Food Problems	121	3	16	121	3	31
Special Problems	127	4	46	.....	.....	.....
Practice Teaching in Home Economics ..	.....	.....	.....	128	3	38
Survey of Home Economics .....	.....	.....	.....	125	3	4
Proseminary	105	2	15	105	.....	.....
.....	.....	.....	.....	and	.....	.....
.....	.....	.....	.....	106	2-5	51
Dietetics	110	4	2	110	4	47
Abnormal Dietetics	133	4	15	.....	.....	.....
Research in Home Economics .....	.....	.....	.....	201	.....	1
HORTICULTURE						
Pomology	105	4	19	106	4	12
Experimental Horticulture	109	3	6	110	3	12
Systematic Horticulture	121	4	5	122	4	7
Farm Horticulture	118	4	57	118	4	75
Farm Woodlot	180	4	6	180	4	9
Arboriculture	181	3	2	182	3	1
Lumber	183	3	5	184	3	11
Silviculture	105	3	1	106	3	1
Forest Management	109	3	1	108	3	1
Forest Protection	111	4	1	111	4	1
Plant Materials	151	2	14	152	2	10
Elementary Design	157	3	11	158	3	10
Advanced Design	159	3	2	160	3	3
Special Problems	169	3	2	170	3	1
Seminar	172	1	1	.....	.....	.....
Elementary Landscape Architecture .....	.....	.....	.....	156	2	17
Plant Materials and Design .....	.....	.....	.....	168	4	2
History of Landscape Architecture .....	.....	.....	.....	154	3	7
Plant Materials .....	.....	.....	.....	162	4	3
Principles of Horticulture	101	4	26	.....	.....	.....
Small Fruit and Grapes .....	.....	.....	.....	120	4	23
Commercial Vegetable Gardening	103	4	8	104	4	7
Horticultural By-Products	133	3	3	.....	.....	.....
Greenhouse Construction and Manage- ment .....	.....	.....	.....	132	3	7
Plant Variations	107	3	7	.....	.....	.....
Commercial Floriculture	141	4	9	142	4	8
Garden Flowers	145	3	6	146	3	6
Systematic Floriculture	147	3	2	148	3	5
Amateur Floriculture .....	.....	.....	.....	140	3	18
Flower Shop .....	.....	.....	.....	144	3	11
Conservatory Plants .....	.....	.....	.....	143	3	4
Pomology	57	4	8	58	4	4
Vegetable Gardening	55	4	7	.....	.....	.....
Pomology	58	4	6	59	4	6

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	SUMMER SESSION			FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
INDUSTRIAL ARTS									
Carpentry—Agricultural				101	2	119	101	2	61
Forging—Agricultural				103	2	83	103		66
Foundry Work Engineering	105	2	26	105	2	61	105	2	25
Chipping and Filing Engineering	107	2	31	107	2	57	107	2	7
Joinery and Pattern Making Engineering	109	2	64	109	2	65	109	2	68
Advanced Pattern Making Engineering	111	1	19	111	1	47	111	1	24
Forging Engineering	115	2	101	115	2	55	115	2	61
Advanced Forging Engineering	118	2		118	2		118	2	
Machine Work Engineering	119	3	38	119	3	92	119	3	70
Advanced Machine Work Engineering	121	3	41	121	3	46	121	3	64
Advanced Machine Work Engineering	123	2		123	2	2	123	2	2
Construction Work Engineering	125	2		125	2		125	2	3
Tool Making and Jig Work Engineering	127	3		127	3		127	3	1

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
INDUSTRIAL EDUCATION						
Teaching of Manual Training	111	3	7			
Materials and Methods				112	3	5
Elementary Woodwork	125	2	1	125	2	4
Wood Turning and Pattern Making	127	3	9	127	3	12
Wood Turning and Pattern Making	128	3	1	128	3	6
Cabinet Making	129	3	7	129	3	9
Advanced Cabinet Work	131	3	1	131	3	12
Shop Planning and Equipment				132	3	3
Electrical Work and Pipe Fitting	133	2	4			
Sheet Metal Work				134	2	2
Craftwork for Women	135	2	14	135		19
Craftwork for Women	136	2		136		9
Methods Related to Agricultural Industry				137		4
Correlated Industrial Work	138	2	5	138		1
Special Problems in Manual Training	123	2		123		
Constructive Design	117	2		117		1
Constructive Design	118	2		118	2	1
SUMMER SESSION, 1921-22						
Materials and Methods	112	3	18			
Special Problems in Manual Training	129	2	2			
Constructive Design	117	2	8			
Constructive Design	118	2	2			
Elementary Woodwork	125	2	5			
Wood Turning and Pattern Making	127	3	8			
Wood Turning and Pattern Making	128	3	1			
Cabinet Making	129	3	10			
Advanced Cabinet Making	131	3	1			
Teaching of Manual Training	111	3	1			
Shop Planning and Equipment	132	3	2			

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
JOURNALISM						
News Collecting and News Writing	101	3	102	102	3	76
News Collecting and News Writing	102	3	14	101	3	34
Agricultural Writing (Special)	101	3	24	102	3	14
Newspaper History and Comparative Journalism	103	3	34	.....	.....	.....
Newspaper Organization .....	.....	.....	.....	104	3	40
Newspaper Practice	105	3	47	106	3	47
Editorial Writing and News Interpretation	107	3	16	108	3	17
Newspaper Problems	109	2	15	110	2	14
Newspaper Ethics and Principles	113	2	41	.....	.....	.....
Newspaper Law .....	.....	.....	.....	119	2	41
The Country Newspaper	115	2	13	116	2	13
LATIN						
Elementary Latin	147	4	21	148	4	13
Cicero, Orations	149	4	19	.....	.....	.....
Cicero, Livy, Horace, Gellius	101	4	36	.....	.....	.....
Pliny, Catullus	103	3	11	.....	.....	.....
Roman Satire	105	2	3	.....	.....	.....
Roman Private Life	107	2	5	.....	.....	.....
Roman and Comparative Literature	111	1	12	112	1	8
Pro-Seminary	113	3	5	114	3	6
Prose Composition—First Course	115	3	4	116	3	4
Prose Composition—Advanced	119	2	1	120	2	1
Roman Prose—Authors	121	2	2	.....	.....	.....
Historical Grammar—Forms	123	1	2	124	1	3
Historical Grammar—Syntax	125	1	5	126	1	3
Methods of Teaching Latin	129	2	5	.....	.....	.....
Roman Public Life	131	2	1	132	2	2
Roman Religion	201	1	3	202	1	3
Mediaeval Latin	203	1	2	204	1	2
Vergil, Aeneid .....	.....	.....	.....	150	4	16
Horace, Livy, Ovid .....	.....	.....	.....	102	4	30
Latin Comedy .....	.....	.....	.....	104	3	11
Roman Philosophy and Rhetoric .....	.....	.....	.....	106	2	2
Roman Art and Archaeology .....	.....	.....	.....	109	2	8
Roman Poets .....	.....	.....	.....	122	2	2
Sight Reading .....	.....	.....	.....	130	2	4
COLLEGE OF LAW						
JOHN J. ADAMS						
Practice .....	.....	2	59	.....	2	59
Bankruptcy .....	.....	1	29	.....	.....	.....
Evidence .....	.....	2	49	.....	2	47
Code Pleading .....	.....	3	48	.....	.....	.....
Judgments .....	.....	2	34	.....	.....	.....
Agency .....	.....	.....	.....	.....	2	107
Appellate Practice .....	.....	.....	.....	.....	1	43
Mortgages .....	.....	.....	.....	.....	2	31
Public Corporations .....	.....	.....	.....	.....	2	56
Legal Ethics (5 lectures) .....	.....	.....	.....	.....	.....	57
ALONZO H. TUTTLE						
Torts .....	.....	3	104	.....	3	103
Criminal Law .....	.....	3	105	.....	.....	.....
Damages .....	.....	2	23	.....	.....	54
Private Corporations .....	.....	2	55	.....	2	42
Partnership .....	.....	.....	.....	.....	2	43
Property IV (Wills) .....	.....	.....	.....	.....	.....	.....
GEORGE W. RIGHTMIRE						
Contracts .....	.....	3	104	.....	3	86
Common Law Pleading .....	.....	2	100	.....	.....	.....
Negotiable Instruments .....	.....	3	58	.....	.....	108
Bailments .....	.....	.....	.....	.....	2	59
Suretyship .....	.....	.....	.....	.....	2	35
Sales .....	.....	.....	.....	.....	2	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
CLARENCE D. LAYLIN						
Equity I and II	I	12	43	II	2	44
Quasi-Contracts .....	.....	.....	36	.....	.....	.....
Constitutional Law	I	12	60	II	12	61
Equity	III	12	48	.....	.....	.....
Criminal Procedure .....	.....	1	37	.....	.....	.....
Domestic Relations .....	.....	.....	.....	.....	12	105
Trusts .....	.....	.....	.....	.....	12	42
Conflict of Laws .....	.....	.....	.....	.....	12	1
GOLDEN N. DAGGER						
Property III	III	12	42	.....	.....	.....
Property I	I	12	103	.....	.....	.....
HERMAN R. TINGLEY						
Property VI .....	.....	.....	.....	VI	2	36
Property II .....	.....	.....	.....	II	12	103
MATHEMATICS						
Sub-Freshman Course	100	5	181	.....	.....	.....
Math. for Students of Agriculture	107	3	102	107	3	60
College Algebra and Trigonometry	121	3	255	.....	.....	.....
Trigonometry and Analytic Geometry .....	.....	.....	.....	122	3	180
History of Elementary Math.	125	2	2	126	2	1
Analytic Geometry and Calculus	127	3	24	128	3	15
Math. of Finance and Insurance	129	3	114	130	3	71
College Algebra and Plane Trigonometry	131	5	281	131	5	164
Plane Trigonometry and Analytic Geometry	132	5	74	132	5	310
Graphical and Statistical Methods	135	3	5	.....	.....	.....
Differential Calculus	141	5	374	141	5	121
Integral Calculus	142	5	94	142	5	289
Modern Elementary Geometry	149	3	2	150	3	1
Plane and Solid Analytic Geometry	163	3	6	164	3	5
Advanced Calculus	165	3	6	166	3	4
Differential Equations	167	3	16	168	3	18
Modern Higher Algebra	173	3	13	174	3	12
Probability .....	.....	.....	.....	181	3	1
Actuarial Theory	183	2	1	.....	.....	.....
Fundamental Ideas of Algebra and Geometry	185	2	9	.....	.....	.....
Teaching of Mathematics .....	.....	.....	.....	186	2	11
Theory of Functions of a Complex Variable	201	3	2	202	3	1
Vector Analysis .....	.....	.....	.....	204	3	4
Fourier's Series and Spherical Harmonics	203	3	3	.....	.....	.....
Calculus of Variations	205	3	1	.....	.....	.....
History of Mathematics	207	3	3	.....	.....	.....
Total number of students .....	.....	.....	1568	.....	.....	1268
MECHANICAL ENGINEERING						
Mechanism and Machine Design	101	3	75	.....	.....	.....
Steam Power Plants	103	3	86	104	4	77
Heat-Power Engineering	105	3	78	106	3	62
Steam Engineering	107	3	48	.....	.....	.....
Mechanism and Machine Design .....	.....	.....	.....	110	3	11
Machine Design .....	.....	.....	.....	112	2	22
Mechanism .....	.....	.....	.....	114	3	77
Mechanism Drawing .....	.....	.....	.....	116	1	75
Heating and Ventilating	121	3	15	.....	.....	.....
Materials of Construction	123	3	13	.....	.....	.....
Gas Engines and Producers	125	2	51	.....	.....	.....
Machine Design	127	5	75	144	5	71
Thermodynamics	129	2	51	.....	.....	.....
Inspection Trip to the East .....	.....	.....	.....	130	.....	102
Reading Course .....	.....	.....	.....	134	.....	6
SUMMER TERM, 1921						
Practical Experience in a Mechanical Engineering Industry	139	.....	34	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Hydraulic Machinery .....	.....	.....	.....	142	2	50
Steam Turbines .....	.....	.....	.....	146	2	21
Thesis Work	148	3	33	148	3	33
Hydraulic Power .....	.....	.....	.....	150	3	17
Experimental Engineering Laboratory.....	169	2	10	160	2	65
Experimental Engineering Laboratory.....	173	5	26	164	2	67
Experimental Engineering Laboratory.....	175	3	21	.....	.....	.....
Experimental Engineering Laboratory.....	179	2	52	190	6	47
Experimental Engineering Laboratory.....	191	4	11	.....	.....	.....
Research Work	201	5	1	.....	.....	.....
Gas-Power Laboratory Work	205	5	1	.....	.....	.....
MECHANICS						
Statics and Strength of Materials.....	101	5	332	.....	.....	.....
Strength of Materials, Kinetics, and Hydraulics .....	.....	.....	.....	102	5	309
Strength of Materials .....	.....	.....	.....	104	2	26
MEDICINE						
Medicine—General and Clinical	101	5	41	102	5	39
Physical Diagnosis .....	.....	.....	.....	104	2	52
Nervous Diseases	106	2	41	.....	.....	.....
Dermatology .....	.....	.....	.....	108	2	39
Genito-Urinary Diseases .....	.....	.....	.....	126	2	39
Medicine, General and Clinical	113	2	33	114	2	32
Psychiatry .....	.....	.....	.....	118	1	32
Pediatrics, Didactic, and Clinical.....	121	2	33	122	1	32
Hospital Ward Clinics in Medicine	101	2	33	102	2	32
METALLURGY						
Fire Assaying	105	2	24	.....	.....	.....
Metallurgical Analysis	106	4	28	.....	.....	.....
Alloy Analysis	107	4	12	107	4	14
Non-Ferrous Metallurgy .....	.....	.....	.....	110	4	26
Technical Gas and Fuel Analysis .....	.....	.....	.....	112	2	18
Ore Dressing and Coal Washing .....	.....	.....	.....	113	4	23
Fuels	117	2	168	.....	.....	.....
Iron and Steel	119	2	170	.....	.....	.....
Elementary Metallography and Pyrometry .....	.....	.....	.....	120	2	11
Metallography	123	3	5	.....	.....	.....
Pyrometry	125	1	13	.....	.....	.....
Metallurgical Construction	127	4	4	.....	.....	.....
Metallurgical Construction .....	.....	.....	.....	128	4	4
Advanced Metallography	133	3	6	134	4	6
Fuel Analysis and Calorimetry	131	1	79	.....	.....	.....
Metallurgical Investigations .....	.....	.....	.....	141	5	5
Ceramic Analysis	145	4	11	146	4	11
Inspection Trip .....	.....	.....	.....	130	.....	12
Thesis .....	.....	.....	.....	116	3	9
Industrial Work .....	.....	.....	.....	.....	.....	.....
MILITARY SCIENCE						
Military Science and Tactics, Infantry Basic	101	1	1066	.....	.....	.....
Military Science and Tactics, Infantry Basic .....	.....	.....	.....	102	1	872
Military Science and Tactics, Infantry Basic	103	1	608	.....	.....	.....
Military Science and Tactics, Infantry Basic .....	.....	.....	.....	104	1	557
Military Science and Tactics, Infantry Advanced	125	2	41	.....	.....	.....
Military Science and Tactics, Infantry Advanced .....	.....	.....	.....	126	2	35
Military Science and Tactics, Infantry Advanced	127	2	20	.....	.....	.....

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Military Science and Tactics, Infantry Advanced				128	2	23
Military Science and Tactics, Infantry Field Artillery Basic	105	1	306			
Military Science and Tactics, Infantry Field Artillery Basic				106	1	277
Military Science and Tactics, Infantry Field Artillery Basic	107	1	211			
Military Science and Tactics, Infantry Field Artillery Basic				108	1	181
Military Science and Tactics, Infantry Field Artillery Advanced	135	2	21			
Military Science and Tactics, Infantry Field Artillery Advanced				136	2	21
Military Science and Tactics, Infantry Field Artillery Advanced	137	2	13			
Military Science and Tactics, Infantry Field Artillery Advanced				138	2	13
Military Science and Tactics, Infantry Signal Corps Basic	153	1	None			
Military Science and Tactics, Infantry Signal Corps Basic				154	1	None
Military Science and Tactics, Infantry Signal Corps Basic	155	1	48			
Military Science and Tactics, Infantry Signal Corps Basic				156	1	44
Military Science and Tactics, Infantry Signal Corps Advanced	157	2	33			
Military Science and Tactics, Infantry Signal Corps Advanced				158	2	43
Military Science and Tactics, Infantry Signal Corps Advanced	159	2	None			
Military Science and Tactics, Infantry Signal Corps Advanced				160	2	None
Military Science and Tactics, Infantry Medical Corps Advanced	167	1	55			
Military Science and Tactics, Infantry Medical Corps Advanced				168	1	50
Military Science and Tactics, Infantry Veterinary Corps Basic	145	1	9			
Military Science and Tactics, Infantry Veterinary Corps Basic				146	1	14
Military Science and Tactics, Infantry Veterinary Corps Basic	147	1	13			
Military Science and Tactics, Infantry Veterinary Corps Basic				148	1	13
Military Science and Tactics, Infantry Veterinary Corps Advanced	149	1	10			
Military Science and Tactics, Infantry Veterinary Corps Advanced				150	1	10
Military Science and Tactics, Infantry Veterinary Corps Advanced	151	1	18			
Military Science and Tactics, Infantry Veterinary Corps Advanced				152	1	18
Military Science and Tactics, Dental Corps Basic	161	1	6			
Military Science and Tactics, Dental Corps Basic				162	1	7
Military Science and Tactics, Dental Corps Basic	163	1	53			
Military Science and Tactics, Dental Corps Basic				164	1	44
Military Science and Tactics, Dental Corps Advanced	165	1	3			
Military Science and Tactics, Dental Corps Advanced				166	1	3
MINE ENGINEERING						
Mine Surveying	103	4	22			
Mine Surveying	113	3	23			

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Principles of Mining	115	2	13	.....	.....	.....
Mining Problems	117	3	13	.....	.....	.....
Development and Methods of Mining ..	123	3	9	.....	.....	.....
Mine Design	127	3	8	.....	.....	.....
Mine Trip .....	.....	.....	.....	110	.....	19
Thesis .....	.....	.....	.....	116	3	5
Prospecting and Preliminary Operations..	.....	.....	.....	122	3	16
Mine Operations .....	.....	.....	.....	124	3	8
Mine Examinations and Reports .....	.....	.....	.....	126	3	8
Mine Design .....	.....	.....	.....	128	3	8
Mine Reports .....	.....	.....	.....	130	3	1
Inspection Trips .....	.....	.....	.....	132	.....	17
Research Work .....	.....	.....	.....	202	5	1
MINERALOGY						
Crystallography and Descriptive .....	.....	.....	.....	.....	.....	.....
Mineralogy	102	3-4	19	102	3-4	80
Determinative Mineralogy	104	3	34	.....	.....	.....
Thermochemical Mineralogy	105	2	19	.....	.....	.....
Microscopic Mineralogy	121	3	9	.....	.....	.....
Mineralogical Investigations	131	3-5	2	131	3-5	8
Elementary Microscopic Petrography .....	.....	.....	.....	111	2	9
OBSTETRICS						
Obstetrics .....	.....	.....	.....	102	2	39
Obstetrics	105	2	33	106	3	32
OPHTHALMOLOGY AND OTO-LARYNGOLOGY						
Ophthalmology	101	2	41	.....	.....	.....
Oto-Laryngology	105	2	41	.....	.....	.....
PATHOLOGY						
General Pathology	109	7	32	109	7	37
Clinical Pathology	119	2	45	120	1	45
Pathology of the Eye	141	3	3	142	3	3
Dental Pathology	135	3	76	.....	.....	.....
Advanced Pathology	127	3-5	5	128	3-5	5
Advanced Special Pathology	133	3-5	2	134	3-5	2
Autopsy Technique	107	None	32	107	None	37
PHARMACY						
Pharmacy (Theoretical)	101	4	97	.....	.....	.....
Pharmacy (Advanced)	103	5	61	.....	.....	.....
Pharmacy (Materia Medica)	105	3	63	.....	.....	.....
Pharmacy (Assaying and Analytical) ..	107	3	14	.....	.....	.....
Pharmacy (Pharmacognosy)	109	3	107	.....	.....	.....
Pharmacy (Pharmacognosy)	111	3	10	.....	.....	.....
Pharmacy (Problems)	113	1	100	.....	.....	.....
Pharmacy (Latin)	119	4	88	.....	.....	.....
Materia Medica (Medical)	131	2	90	.....	.....	.....
Pharmacy (Practical)	102	5	108	102	5	108
Pharmacy (Advanced and Assaying) .....	.....	.....	.....	104	5	47
Pharmacy (Materia Medica) .....	.....	.....	.....	106	3	63
Pharmacy (Assaying and Analytical) ..	.....	.....	.....	110	5	10
Pharmacy (Pharmacognosy) .....	.....	.....	.....	110	3	87
Pharmacy (Pharmacognosy) .....	.....	.....	.....	112	3	8
Pharmacy (Problems) .....	.....	.....	.....	113	1	24
Pharmacy (Toxicology) .....	.....	.....	.....	114	3	56
Pharmacy (Urinary Analysis) .....	.....	.....	.....	116	2	59
Pharmacy (Latin) .....	.....	.....	.....	119	4	26
Pharmacy (Commercial Pharmacognosy) ..	.....	.....	.....	120	3	110
Pharmacy (Commercial) .....	.....	.....	.....	122	2	65
Pharmacy (Current Literature) .....	.....	.....	.....	124	1	50
Materia Medica (Medical) .....	.....	.....	.....	132	3	85

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
PHILOSOPHY						
Introduction to Philosophy	101	3	123	101	3	81
Introductory Logic	102	3	36	102	3	95
Principles of Philosophy	105	3	69	104	3	38
Elementary Ethics	107	3	25	106	3	90
History of Ancient Philosophy						
History of Mediaeval and Modern Philosophy				108	3	33
Advanced Ethics	111	2	9	112	2	18
Aesthetics	115	2	51	116	2	45
Philosophy of Religion	119	2	13			
Origins of Christian Thought	121	3	10	120	2	13
Metaphysics	123	3	2	122	3	8
Representative Ancient Philosophers	138	3	8	124	3	1
Development of Thought in the XVIII and XIX Centuries						
Pragmatism	157	2	30	150	2	21
The Formation of the Old Testament				158	2	35
The Development of Hebrew Ideas	201	3	3	202	3	2
Seminary in Philosophy				208	3	2
Contemporary Philosophical Issues				Sp.	3	1
Thesis						
PHYSICAL EDUCATION						
MEN						
Physical Education	101	1	1372	102	1	1250
Hygiene	100	1	734	100	1	609
Hygiene and First Aid	125	2	9			
Principles of Coaching Baseball and Basketball	113	1	3			
Principles of Coaching Track and Field Sports	111	1	7			
Organization and Administration of Physical Education	107	2	2			
Principles of Coaching Football				112	1	14
Teaching of Physical Education				122	2	3
Theory of Physical Education				110	2	17
WOMEN						
Physical Education	131	1	685	132	1	658
Physical Education	133	1	494	134	1	503
Anthropometry and Physical Diagnosis	135	3	11			
Theory and Practice of Teaching Physical Education				136	3	13
Hygiene	100	1	508	100	1	135
PHYSICS						
General Physics (No. entr. credit prereg.)	103	4	115	104	4	64
General Physics (Entrance credit prereg.)	105	4	154	106	4	129
Physics for Students of Agriculture	109	3	108	109	4	106
General Physics (for engineers)	111	3	182	112	4	93
General Physics (for engineers)	113	5	199			
General Physics (for arch.)	117	2	11			
General Physics (M.E.)				119	3	36
The Teaching of Physics				120	2	3
Laboratory Physics (No separate instructor; course run with 123-124)	121	3-5	4	122	3-5	2
Laboratory Physics (No separate instructor; course run with 123-124)	123	3-5	6	124	3-5	7
General Physics (C. E.)				125	5	80
Electric and Magnetism	129	2	117			
Electric and Magnetism				130	6	76
Wave Motion, Sound, and Light				132	2	78
Physical Laboratory (E. E.)	135	5	75			
Physical Laboratory (M. E.)				138	2	64

	FIRST SEMESTER			SECOND SEMESTER		
COURSE SUBJECT	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Advanced Electricity	143	3	10	144	3	8
Advanced Physics; Light and Electricity..	151	3	6	152	3	.....
Thermodynamics with Application to Chemistry	205	2	10	206	2	7
Electron Theory and Atomic Structure ..	217	3	9	218	3	4
PHYSIOLOGICAL CHEMISTRY, PHARMACOLOGY, AND MATRIA MEDICA						
Physiology 123 (Physiological Chemistry)	123	4	119	130	4	54
Physiology 130 (Pharmacology) .....	.....	.....	.....	134	2	66
Physiology 134 (Physiological Chem- istry—Dent.)	134	.....	.....	.....	.....	.....
PHYSIOLOGY						
Physiology	101	.....	.....	102	5	240
Chemical Physiology	119	5	246	.....	.....	.....
Elementary Physiology (Pharmacy)	106	5	14	.....	.....	.....
Comparative Physiology (Veterinary)....	107	3	43	.....	.....	.....
Advanced Physiology	114	4	14	.....	.....	.....
General Physiology	115	3	8	118	3	21
Dental Physiology .....	.....	.....	.....	120	3	40
Premedical Physiology	121	5	64	122	5	62
Laboratory Physiology	127	4	72	.....	.....	.....
Physiology for Applied Optics	131	1	.....	132	3	116
.....	.....	.....	.....	138	1	.....
.....	.....	.....	.....	161	3	7
POLITICAL SCIENCE						
Government in the United States and Europe	101	3	272	.....	.....	.....
Government in the United States and Europe .....	.....	.....	.....	102	3	238
Problems in International Politics	113	3	11	.....	.....	.....
Introduction to Jurisprudence	125	3	44	114	3	6
Municipal Government	106	3	12	126	3	49
Municipal Functions	131	3	34	130	3	12
State Government .....	.....	.....	.....	132	3	36
State Functions	117	2	2	.....	.....	.....
Proseminary	151	2	1	.....	.....	.....
Methods of Governmental Research	201	2	1	152	2	5
Research in Political Science .....	.....	.....	.....	202	2	1
POULTRY HUSBANDRY						
.....	117	3	30	.....	.....	.....
.....	59	3	19	.....	.....	.....
.....	119	2	3	.....	.....	.....
.....	.....	.....	.....	60	3	27
.....	.....	.....	.....	118	3	18
.....	.....	.....	.....	120	1	14
.....	.....	.....	.....	122	1	23
.....	.....	.....	.....	121	1	6
.....	.....	.....	.....	.....	.....	16
WINTER COURSE (8 weeks)	.....	.....	.....	.....	.....	.....
WINTER COURSE (3 weeks)	.....	.....	.....	.....	.....	14
Graduate Students .....	.....	.....	1	.....	.....	1
PRINCIPLES AND PRACTICE OF EDUCATION						
Principles and Methods of High School Teaching	103	3	113	103	3	98

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Observation, Criticism, and Practice.....	104	3	29	104	3	81
Principles of Education	109	3	19	109	3	49
Principles of Education (Extension Course, Washington C. H.)	109	2	44	.....	.....	.....
Advanced Principles of Education	111	3	8	112	3	14
Social Aims in Education	113	2	3	.....	.....	.....
Supervision of Teaching	119	3	3	119	3	7
Philosophy of Education (Listed in the Department of History and Philosophy of Education).....	103	2	8	104	2	8
PSYCHOLOGY						
Elementary	101	3	1127	102	3	935
Elementary	102	3	152	101	3	330
Elementary (Agriculture)	103	3	21	104	3	17
Elementary with Lab.	105	3	55	.....	.....	.....
Educational	107	2	148	108	2	130
Educational	108	2	19	107	2	19
Experimental	111	3	17	112	3	17
Mental and Social Measurements.....	.....	.....	.....	114	2	18
Genetic	115	2	30	116	2	24
Abnormal	121	4	34	.....	.....	.....
The Defective Child .....	.....	.....	.....	122	4	34
Psychopathology .....	.....	.....	.....	124	2	13
Social Psychology	125	3	55	.....	.....	.....
Folk Psychology .....	.....	.....	.....	126	3	30
Industrial .....	.....	.....	.....	127	2	82
Advertising	128	2	91	.....	.....	.....
Advanced	129	2	16	.....	.....	.....
Advertising Laboratory	131	2	13	132	2	9
Tests	133	3	9	134	3	8
Industrial Laboratory	135	2	3	136	2	4
Feeling and Emotion .....	.....	.....	.....	138	2	12
Minor Problems	141	2	14	142	2	22
Clinic	147	2	6	148	2	9
Physiological	149	2	8	150	2	4
Criminal and Legal	151	2	23	152	2	18
Theoretical	153	2	4	.....	.....	.....
Medical	157	1	31	.....	.....	.....
Major Research	201	2-6	10	202	2-6	12
Seminary	203	2	9	204	2	12
Contemporary Literature	205	1	2	.....	.....	.....
Bureau Juvenile Research	257	2	3	258	2	1
PUBLIC HEALTH AND SANITATION						
FIRST SEMESTER						
Public Health (Nursing)	105	2	19	.....	.....	.....
Public Health (Nursing Field Work) ..	107	7	1	.....	.....	.....
Public Health (Personal Hygiene)	113	2	96	.....	.....	.....
Public Health (Public Health Problems) ..	121	2	94	.....	.....	.....
Public Health (Graduate) Per. Hyg.	201	3	4	.....	.....	.....
Public Health (Graduate) P. H. Prob.	205	2	5	.....	.....	.....
Public Health (Graduate) Demography ..	207	2	3	.....	.....	.....
Public Health (Graduate) Comm. Dis.	209	3	3	.....	.....	.....
Public Health (Graduate) Engineering ..	211	3	3	.....	.....	.....
Public Health (Graduate) Laboratory ..	213	3	3	.....	.....	.....
Science Nursing (Elementary Nursing) ..	101	2	6	.....	.....	.....
Science Nursing (Educational Nursing) ..	151	2	1	.....	.....	.....
Science Nursing (Educational Nursing) ..	153	2	1	.....	.....	.....
Science Nursing (Educational Nursing) ..	159	1	20	.....	.....	.....
SECOND SEMESTER						
Public Health (Nursing) .....	.....	.....	.....	106	2	17
Public Health (Nursing Field Work) ..	.....	.....	.....	107	7	2
Public Health (Preventive Medicine) .....	.....	.....	.....	110	2	28
Public Health (Nursing Seminary) .....	.....	.....	.....	118	2	1

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Public Health (Medical Personal Hygiene)				112	3	76
Public Health (Public Health Problems)				121	2	148
Public Health (Industrial Hygiene)				122	2	16
Public Health (Graduate) Ind. Hyg.				202	3	3
Public Health (Graduate) Prev. Med.				204	2	2
Public Health (Graduate) Soc. Service ..				208	2	2
Public Health (Graduate) Comm. Dis.				210	2	2
Public Health (Graduate) Engineering ..				212	3	3
Public Health (Graduate) Laboratory				214	3	2
Public Health (Graduate) Thesis				216	1	2
Science Nursing (Elementary Nursing) ..				102	2	31
Science Nursing (Educational Nursing) ..				156	2	1
ROMANCE LANGUAGES						
FRENCH						
Elementary French	101	4	424	102	4	402
Modern French Literature	103	4	410	104	4	423
Modern French Literature	104	4	40			
Seventeenth Century Drama	109	3	138	110	3	99
The Teaching of French	123	2	122	122	2	17
French Phonetics	123	2	12	123	3	10
French Syntax	124	2	18			
Elementary French Composition and Conversation	127	2	73	128	2	55
Explication de Textes	181	2	6	182	2	6
French Literature of the 19th Century....	135	3	73	186	2	69
French Literature of the 18th Century....	137	2	14	138	2	9
French Novel, The	141	2	15	142	2	14
ITALIAN						
Elementary Italian	101	4	21	102	4	17
Modern Italian Literature	105	2	6	106	2	7
Survey of Italian Literature	119	3	10	120	3	10
SPANISH						
Elementary Spanish	101	4	722	102	4	716
Intermediate Spanish	103	4	346	104	4	296
Advanced Spanish	105	3	62	106	3	51
Customs and Manners of Spain	109	2	29	110	2	14
Advanced Composition and Conversation..	113	3	12	114	3	5
Advanced Syntax (The Teaching of Spanish)	115	2	12	116	2	9
The Modern Spanish Novel	119	3	22	120	3	18
The Drama of the Golden Age	123	3	24	124	3	15
GRADUATE COURSES						
Introduction to Romance Philology	201	2	1	202	2	1
Old Provençal	203	2	3	204	1	3
Research in French Literature	207	2	3	208	2	4
Research in Spanish Literature	209	2	4	210	2	5
Old Spanish	211	2	5	212	2	3
Seminary in French Literature	217	2	5	218	2	6
Seminary in Spanish Literature	227	2	8	228	2	
RURAL ECONOMICS						
Farm Accounting	101	2	23	101	2	13
Farm Cost Accounts	102	2	6			
Farm Management	103	4	59			
Agricultural Economics	104	3	63	104	3	83
Rural Community Life	110	3	35	110	3	28
Advanced Farm Management				111	2	11
Distribution of Farm Products	113	3	32			
Co-operation in Agriculture				116	2	20
Rural Community Development				118	2	7

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Accounting for Country Elevators and Marketing Associations	201	41	6	120	2	4
Research Work	52		69	202	4	5
Farm Accounts and Records	53		17	51		45
Farm Management						
Co-operation in Agriculture						
Rural Community Life				54		81
Winter Course in Farm Management...						48
SCHOOL ADMINISTRATION						
Public Education in the United States...	101	3	90			
The Administration of Rural Education...	103	2	6			
The Administration of Secondary Schools...	111	3	24			
The Administration of Elementary Schools	113	3	22			
Problems of Elementary School Administration	119	2	15			
Seminary in School Administration	201	2-4	14			
Thesis (In residence)			4			
Thesis (In absentia)			18			
Ad interim			96			
Public Education in the United States...				101	3	36
School Hygiene				104	2	6
The Administration of Secondary Schools...				112	3	24
The Administration of Elementary Schools				114	3	16
Problems of Elementary School Administration				120	2	15
State School Administration				122	3	9
Seminary in School Administration				202	2-4	15
Thesis (In residence)						10
Thesis (In absentia)						16
Ad interim						96
SOCIOLOGY						
Principles of Sociology	101-2	3	516			
Principles of Sociology	104	3	43	101-2	3	510
The Immigrant	107	3	68			
The Family	109	4	34			
The Handicapped, Defectives, and Dependents	111	3	48			
Poverty				112	4	32
Needy Families and Children	115	8	4			
Field Work in Sociology	117	2	6	115-16	8	3
Methods of Sociological Investigation	123	3	24	118	2	4
Physical Anthropology	125	3	37	124	3	45
Social Anthropology	127	3	29	126	3	65
Social Order and Social Control						
Social Progress				128	3	20
Leisure and Recreation	131	3	37	132	3	29
Social Organization and Administration of Recreation Facilities	133	3	6	134	3	44
The Criminal	135	3	32	136	3	24
Penology	137	3				
Municipal Sociology				138	3	
American Race Problems				142	3	11
Social Statistics						
Social Statistics						
The Assimilation of the Immigrant (not given)	141	3	16			
Red Cross Administration (not given)	145	3	21			
Principles of Sociology				148	3	
Principles of Sociology						
Organization for Social Welfare						
Rural Social Institutions						

THE WORK OF INSTRUCTORS—1921-1922—Continued

COURSE SUBJECT	FIRST SEMESTER			SECOND SEMESTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
SURGERY						
Minor Surgery	104	2	52	.....	.....	.....
General Surgery	101	5	41	102	5	39
Gynecology .....	.....	.....	.....	106	2	39
Orthopedic Surgery	116	1	33	.....	.....	.....
Conference Clinics	127	1	33	128	1	32
Operative Surgery	111	1	33	.....	.....	.....
Roentgenology	119	1	3	.....	.....	.....
Hospital Ward Clinics in Surgery and Specialties	101	2	33	102	2	32
VETERINARY MEDICINE						
Anatomy (Osteology and Arthrology) ...	101	5	9	.....	.....	.....
Anatomy (Myology and Splanchnology) ...	.....	.....	.....	102	7	12
Anatomy (Splanchnology, Angiology, Neurology, etc.)	135	6	16	136	6	11
Applied Anatomy	134	2	4	.....	.....	.....
Materia Medica	107	3	12	108	4	13
Pathology (General)	105	5	22	140	5	28
General Surgery	120	3	27	.....	.....	.....
Diseases of Small Animals	115	5	25	.....	.....	.....
Physical Diagnosis	127	3	27	.....	.....	.....
Clinic	119	3	28	118	3	27
Horseshoeing .....	.....	.....	.....	109	3	31
Sporadic Diseases of Large Animals .....	.....	.....	.....	126	5	26
Laboratory Diagnosis .....	.....	.....	.....	142	2	25
Pathology	137	3	32	138	3	27
Special Surgery	133	4	35	132	4	34
Infectious Diseases of Large Animals	143	1	31	.....	.....	.....
Clinic	123	3	35	124	3	19
Operative Surgery	121	1	31	.....	.....	.....
Meat Inspection	122	3	27	.....	.....	.....
Obstetrics .....	.....	.....	.....	111	3	36
Hygiene and Sanitation .....	.....	.....	.....	144	3	23
Veterinary Medicine for Agricultural Students	151	3	52	152	3	16
Veterinary Medicine for Agricultural Students	51	3	40	52	3	74
Short Course in Agriculture (Beginning January 3, 1922.) .....	.....	3	60	.....	.....	.....
Veterinary Pathology (For graduate students only)	201	5	5	203	5	1
Veterinary Pathology (For graduate students only)	203	5	2	206	5	1
Veterinary Pathology (For graduate students only)	205	5	1	.....	.....	.....
Veterinary Pathology (For graduate students only)	206	5	1	.....	.....	.....
ZOOLOGY AND ENTOMOLOGY						
Elementary Zoology	101	3	702	102	3	456
General Principles of Heredity	115	3	143	115	3	74
Animal Parasites .....	.....	.....	.....	118	3	2
Advanced Zoology of Invertebrates	121	3	3	122	3	2
Microtechnic	123	2	4	.....	.....	.....
Evolution	131	3	15	132	3	12
Adv. Studies in Animal Heredity	129	3	8	130	3	3
Minor Investigations	141	3	3	142	3	6
Ornithology	139	2	2	140	2	2
Teaching of Zoology	145	3	2	.....	.....	.....
Animal Behavior	153	3	5	154	3	3
Seminary in Zoology (Graduate)	201	1	13	202	1	13
Research in Zoology and Entomology ..	241	3-10	14	242	3-10	14
Invertebrate Zoology (Graduate)	247	5	5	248	5	5
Economic Entomology	107	3	131	108	3	20
Apiculture .....	.....	.....	.....	112	3	12
.....	113	.....	.....	114	.....	.....
Advanced Entomology	137	4	4	138	4	4
Insect Control	151	4	6	152	4	4
Morphol. and Development of Insects .....	.....	.....	.....	162	4	2

* SHOWING THE WHOLE NUMBER OF DEGREES IN COURSE CONFERRED SINCE THE FOUNDING OF THE UNIVERSITY

265

APPENDIX V—Concluded

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922			
Master of Science				1								1	1	2	2			2		3	3		2	3	3	2	1							1	8	6	14	15	25	32	19	8	29	36	44			
Master of Science (Agriculture).....																		1	2		1										2	1	3	3	1													
Master of Science (Dom. Sc.)																													1																			
Master of Science (H. F.)																																	1															
Master of Science in public health																																								3					1	1		
Doctor of Philos- ophy.....	1												1					1		1						1		1	1		1		2		1	5	1	2	1	3	11	9	4	7	8	13		
Doctor of Science..													1																																			
Doctor of Dental Surgery																																																
Doctor of Medicine																																																
Juris Doctor																																																
Bachelor of Laws																9	18	15	16	6	23	22	21	25	17	26	20	11	15	17	26	15	16	22	10	19	18	19	18	24	17	11						
Master of Laws...																2	4	2		6							2	3	1																			
Total	6	7	9	8	9	11	12	16	18	24	28	26	30	36	61	79	70	112	118	135	126	99	137	135	141	170	194	209	225	249	287	333	370	422	501	515	649	793	902	941	565	470	801	970	1054			
Degrees conferred during the year																1												6	0	5	6	5	15									61	67	76	100	98		
Totals																80												200	209	230	255	292	348									626	537	877	1070	1152		

* Statistics given prior to 1904 covered only the degrees granted at the Commencement.

APPENDIX VI

SHOWING THE NUMBER OF STUDENTS IN THE GENERAL, TECHNICAL, AND PROFESSIONAL COURSES

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
General Courses (College of Arts).....	137	151	194	245	256	322	327	358	371	419	439	403	490	496	490	551	572	630	714
Technical Courses (other Colleges, except Law).....	166	259	381	368	424	453	453	511	541	603	771	888	1039	1135	1129	1262	1280	1436	1626
Professional Courses (Colleges of Law).....		55	67	72	65	100	132	148	191	201	220	188	166	171	179	162	153	138	132
*Graduate Students and Summer School.....	2			1		94	97	133	75	45	51	49	62	108	54	240	339	379	458
**Summer School (Shopwork).....															74	75	81	80	90
Lake Laboratory (Summer).....												19		23	32	26	19	26	32
Totals.....	305	465	642	686	745	969	1009	1150	1178	1268	1481	1547	1757	1933	1958	2316	2444	2689	3052
Names counted twice.....																159	167	216	258
Net total.....																2157	2277	2473	2794

APPENDIX VI—Concluded

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
General Courses (Colleges of Arts, Commerce and Journalism, and Education).....	845	865	962	1009	1139	1494	1820	2198	2220	2558	3422	3802	4147
Technical Courses (Other Colleges Except Dentistry, Homeopathic Medicine, Law, and Medicine).....	1643	1780	1979	2106	2392	2373	2491	2398	1884	2129	2733	3003	2982
Professional Courses (Colleges of Dentistry, Homeopathic Medicine, Law, and Medicine)...	181	170	185	198	187	615	556	514	384	300	718	611	688
Graduate Courses (Graduate School).....	96	70	97	123	133	185	244	233	161	143	208	269	382
Summer Session.....	606	617	738	575	671	926	1010	1166	918	909	1229	1391	1543
Lake Laboratory (Summer).....	36	22	28	25	32	14	19	15	14	2	11	18	19
Winter Courses.....	159	183	273	227	203	187	173	187	119	121	178	86	121
Total.....	3566	3707	4262	4268	4757	5794	6313	6711	5700	6162	8499	9180	9882
Names counted twice.....	291	268	334	299	322	462	491	523	550	437	682	867	1032
Net Total.....	3275	3439	3928	3969	4435	5332	5822	6188	5150	5725	7817	8313	8850

* Until 1896 graduate students have been included in the first three classes.

** Until 1904 summer term students in shopwork have been included with graduate students.

APPENDIX VII

SHOWING DEGREES AND CERTIFICATES GRANTED DURING YEAR
ENDING JUNE 30, 1922

GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

Clyde Stewart Adams, B.S. (Denison University), M.Sc.....	Newark
Walter Valentine Balduf, B.A. (Ohio Wesleyan University), M.Sc....	Columbus
Richard Bradfield, A.B. (Otterbein College).....	Columbia, Mo.
William Byron Brown, A.B. (University of California).....	Columbus
Jacob Cornog, A.B. (University of Oregon).....	Iowa City, Iowa
Dwight Moore DeLong, B.Sc. (Ohio Wesleyan University), M.Sc....	Columbus
Herbert Lawrence Dozier, B.Sc. (University of South Carolina), M.Sc.	
(University of Florida).....	Columbia, S. C.
Dennis Edward Haley, B.Sc. in Agr., M.Sc. (Pennsylvania State College	
.....	State College, Pa.
Lawrence Lester Huber, B.Sc. in Agr., M.Sc.....	Bluffton
Andrew Karsten, A.B. (Hope College), M.A.....	Columbus
Jasper Dean Sayre, B.A., M.Sc.....	Columbus
Walter Scott, B.S., B.A. (Valparaiso University), M.A. (Yale Univer-	
sity).....	Corvallis, Ore.
Herbert Spencer, B.S. in Agr., M.S. in Agr. (North Carolina State	
College).....	Columbus

(Thirteen candidates)

MASTER OF ARTS

Donald Benton Anderson, B.A., B.Sc. in Edu.....	Columbus
Mary Auten, A.B. (Bluffton College).....	Rawson
Minona Elizabeth Bauer, B.Sc. in Edu.....	Columbus
Theodore N. Beckman, S.Sc. in Bus. Adm.....	Columbus
Murl Milton Berry, A.B. (Baldwin-Wallace College).....	Martins Ferry
Forest Ira Blanchard, B.A., B.S. in Econ. (University of Pittsburgh).....	Columbus
Elsworth Vachel Bowers, Ph.B. (Otterbein College).....	Tippecanoe City
Orton Wells Boyd, B.A.....	Columbus
Ralph Saul Broede, A.B. (Ohio Northern University).....	Bloomville
Paul Herman Buck, B.A.....	Columbus
Clarence Crawford Coontz, B.Sc. in Edu.....	Toledo
Paul Tillson Copp, B.A.....	West Alexandria
Edward James Cristy, A.B. (University of New Mexico)...	Albuquerque, N. M.
James Edgar Davis, B.A. (Muskingum College).....	Quaker City
Perry Perdue Denune, A.B. (Hiram College).....	Columbus
Albert Alden Doty, B.Sc. in Edu.....	Lakewood
Amy De Ette Dunn, B.Sc. in Social Service.....	Marietta
Karl Theodore Finn, B.A.....	Columbus
Mildred Fisher, B.A.....	Columbus
Earl Raymond Gabler, B.Sc. in Edu.....	Columbus
Emery Marcus Gentry, B.S. (Fisk University).....	Portsmouth
Clarence Louis Frank Gohdes, A.B. (Capital University).....	Columbus

George Nelson Graham, B.A.	Columbus
Raymond Leonard Grismer, A.B. (University of Vermont)	Columbus
George Donovan Groves, B.A. (Ohio Wesleyan University)	Troy
Herbert J. Guinsler, B.A. (Ohio Wesleyan University)	Crooksville
Anne Dorothy Habekost, A.B. (Miami University)	West Alexandria
Mary Eileen Hannon, B.Sc. in Edu.	Logansport, Ind.
George Whiting Hibbitt, B.A., B.Sc. in Edu.	Louisville, Ky.
Joseph H. Hixson, B.Sc. in Edu.	Cambridge
Wayne Leslie Hopkins, B.A.	Columbus
Eudora Huffman, B.A., B.Sc. in Edu.	Columbus
Henry Gordon Hullfish, B.A. (University of Illinois)	Columbus
Lucian Francis Hunt, B.S. (Coe College)	Cedar Rapids, Iowa
Leon Percy Irvin, B.A. (Mercer University)	Oxford
Harold Edward Israel, A.B. (Miami University)	Connersville, Ind.
Robert Joseph Kane, B.A.	Columbus
Florence Marjorie Knapp, B.A.	Parkersburg, W. Va.
Lois Langstaff, B.Ph. (Denison University)	Richwood
Grace Linder, B.A. (University of Illinois)	Columbus
Charles Lloyd McKillip, A.B. (Miami University)	Attica
*Clarence Alter March	Bowling Green
William Gottlieb Meinke, B.S. in Edu. (Ohio University)	Oak Harbor
Elizabeth Lowndes Moore, B.A.	Parkersburg, W. Va.
Mary Jane Morris, B.S. in Edu. (Ohio University)	Columbus
Antoinette Pauline Noel, B.A. (Ohio Wesleyan University)	Blois, France
Woodford W. Peters, A.B. (Manchester College)	Manchester, Ind.
Anna Polkowski, B.A. (University of Illinois)	Michigan City, Ind.
Oliver Leslie Reiser, B.A.	Columbus
Frieda Hastings Ribov, S.Sc. in Edu.	Columbus
Bernice Sanders, A.B. (Wilberforce University)	South Norfolk, Va.
Harold Finefrock Schory, B.A.	Canton
Claire Gertrude Sharpe, B.Sc. in Edu.	Columbus
Fred Cletis Slager, B.S. (Ohio Northern University)	Chillicothe
John Franklin Smith, A.B. (Otterbein College)	Pickerington
Wilmah Spencer, B.A., M.A. (Cedarville College)	Cedarville
Helen Virginia Terry, B.A., B.Sc. in Edu.	Columbus
Josiah Gaddis Vance, B.A.	Columbus
Harry Hull Vannorsdall, B.S. in Edu. (Ohio Northern University)	Wilmington

Clair Lown Wilcox, B.S. in Econ. (University of Pennsylvania)	Delaware
Henry Loudon Wilson, B.A.	Columbus
Josephine Idiene Wuebben, A.B. (Ohio University)	Logan

(Sixty-one candidates)

MASTER OF SCIENCE

Leonard Thomas Capell, B.Ch.E.	Columbus
Ram Chandra Chowdhary, B.A. (Benares Hindu University)	Benares City, India
Helen Clarke, B.Sc., in H.E. (Colorado Agricultural College)	Akron, Colo.
Richard Andrew Crawford, B.A.	Columbus
Clifford Reginald Cutright, B.A.	Adrian, W. Va.

* Two Degrees.

Raymond Anson Dobbins, B.A.....	Ada
Harriet Louise Durand, B.Sc. in Pharm.....	Columbus
Gaylord Beale Estabrook, B.Sc., Ch.E. (Purdue University).....	Toledo
Selwyn Bright Ewing, B.Sc. in Agr.....	Vanlue
Lucille Isabelle Fischer, B.A.....	Bainbridge
Anthony George, B.A.....	Canea, Crete
Robert Stewart Hanson, B.A.....	Kent
Eugene Harry Heller, A.B. (Marietta College).....	Marietta
Elbert Dung Wui Ho, B.S. in Civil Engr. (University of Hawaii)	
.....	Honolulu, Hawaii
George Preston Hoff, B.A.....	Cleveland
Hobart McKinley Kraner, B. Cer. E.....	Columbus
Lois Lampe, B.Sc. in H.E., B.A.....	Washington C. H.
Mendel Elmer Lash, B.A.....	New Washington
Pyungtoo William Lee, B.A. (Ohio Wesleyan University).....	Seoul, Korea
En Fon Lee-Toma, B.S. in Sugar Technology (University of Hawaii)	
.....	Honolulu, Hawaii
Harry Keen Linzell, B.Ch.E., B.A.....	Columbus
Tien-Chen Liu, B.S. in C.E. (Government Institute of Technology, China)	
.....	Kwei Chow, China
Dexter Nathaniel Lutz, B.Sc. in Agr.....	Columbus
John Dorman McBurney, B.S. (Muskingum College).....	Cambridge
Robert Nathaniel McCormick, B.A. (Muskingum College).....	New Concord
Chloie Daugherty McGlinchay, B.Sc. in Edu.....	Galloway
Agnes Sommer Merritt, B.A. (Hunter College of City of New York)	
.....	Columbus
August Edward Miller, B.Sc. in Agr.....	Zanesville
Thomas Aquin Moormann, A.B. (University of Cincinnati).....	Cincinnati
Mont Francis Morgan, B.Sc. in Agr. (West Virginia University)	
.....	Ravenswood, W. Va.
Theunis Johannes Naude, B.Sc. (University of South Africa)	
.....	Heilbron, Orange Free State
Frederick Henry Waldemar Noll, B.A. (The State University of Iowa)	
.....	Waukon, Iowa
Robert Ambrose Osborn, B.S. (Ohio Northern University).....	Van Wert
Donal Bruksieker Pheley, B.C.E.....	Columbus
Marion Capps Reed, B.S. (Kansas State Agricultural College).....	Columbus
Mitsugi Satow, B.Sc. (Hokkaido Imperial University), B.Sc. in Agr.	
.....	Sapporo, Japan
Grace Mansfield Seifried, A.B. (University of Cincinnati).....	Cincinnati
Leland Edson Starr, D.V.M.....	Columbus
Walter Lee Turner, Jr., B.S. (Virginia Polytechnic Institute)	
.....	East Falls Church, Va.
George Henry VanderBorgh, A.B. (Hope College).....	West Sayville, N. Y.
Helen Landman Wikoff, B.A.....	Columbus
Norman Emme Woldman, B.S. (Case School of Applied Science)....	Cleveland
Mary Elvira Wurdack, B.A.....	Columbus
Young Sun Yun, B.Sc. in Agr.....	Seoul, Korea

(Forty-four Candidates)

MASTER OF SCIENCE IN PUBLIC HEALTH

Harry Reber Beery, B.A. (Chicago University), M.D. (Rush Medical College).....	Columbus
(One candidate)	

MASTER OF ARTS

Ryllis Clair Alexander, B.A.....	Columbus
Faustine Alston, B.A. (University of Wisconsin).....	Norwood
Robert Wentz Edmiston, A.B. (Miami University).....	Wapakoneta
Grace Althea Golladay, B.Sc. in Edu.....	Columbus
Charles Frederick Harrold, B.A.....	Columbus
Errett Morse Selby, B.A., B.Sc. in Edu.....	Columbus
Florn Washburn Smith, B.Sc. in Edu.....	Shiloh
(Seven candidates)	

MASTER OF SCIENCE

Adelaide Pauline Barer, B.A. (Iowa State University).....	Iowa City, Iowa
Arthur Talbot Bawden, B.S. (Denison University).....	Granville
Fred Funston Cope, A.B. (College of Emporia).....	Holton, Kan.
Joseph Lee Gayle, B.S. Agr. (University of Kentucky).....	Falmouth, Ky.
Philip Gerald Horton, B.S. (Denison University).....	Newark
William Walter Lake, B.Sc. in Pharm.....	Cleveland
Edward George Meiter, B.S. (Mt. Union College).....	Salem
William Whistler Mills, B.S. (Franklin College).....	New Athens
Gerard Gordon Osterhof, A.B. (Hope College).....	Thayer, Ind.
James Green Steed, B.S. (Ohio University).....	Athens
Yu Seng Tsen, A.B. (University of California).....	Nantai, Foochow, China
Arthur J. Yaney, B.A. (Ohio Wesleyan University).....	Wauseon
(Twelve candidates)	

CANDIDATES FOR TWO DEGREES

Clarence Alter March—Master of Arts, Bachelor of Chemical Engineering.....	Bowling Green
Glenn D. Greek—Bachelor of Arts, Bachelor of Science in Agriculture.....	Columbus
George Jacob Schmidt—Bachelor of Arts, Bachelor of Science in Agriculture.....	Bainbridge
Dorothy Louise Butterworth—Bachelor of Arts, Bachelor of Science in Home Economics.....	Columbus
Mary Vastine Lunn—Bachelor of Arts, Bachelor of Science in Home Economics.....	Columbus
Ruth Ellsworth Davis—Bachelor of Arts, Bachelor of Science in Social Service.....	Cleveland
Mary Catherine Adams—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Verna Mae Boyle—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Joseph Leo Conrad—Bachelor of Arts, Bachelor of Science in Education.....	East Sparta
Ethel Baucher Evans—Bachelor of Arts, Bachelor of Science in Education.....	Youngstown

Jacob Alphonsus Gherlein, Jr.—Bachelor of Arts, Bachelor of Science in Education.....	Scenery Hill, Pa.
Vivienne Goll—Bachelor of Arts, Bachelor of Science in Education....	Stryker
Catherine Gertrude Hendrickson—Bachelor of Arts, Bachelor of Science in Education.....	Portsmouth
Clayton Darius Hutchins—Bachelor of Arts, Bachelor of Science in Education.....	Dayton
Margaret Florence Johnson—Bachelor of Arts, Bachelor of Science in Education.....	New Lexington
Louisa Butler Perin—Bachelor of Arts, Bachelor of Science in Education.....	Amelia
Mary Agnes Pusateri—Bachelor of Arts, Bachelor of Science in Education.....	Portsmouth
Diathea Centura Scholl—Bachelor of Arts, Bachelor of Science in Education.....	Chillicothe
Charles Conrad Snyder—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
James Holton Wilson—Bachelor of Arts, Bachelor of Chemical Engineering.....	Columbus
George Dewey Clark—Bachelor of Arts, Bachelor of Electrical Engineering.....	Columbus
Frank Victor Bayer—Bachelor of Arts, Bachelor of Laws.....	Columbus
Scharrold McKinley Adams—Bachelor of Science, Doctor of Medicine (Homoeopathic).....	Dayton
Walter Harold Hamilton—Bachelor of Science, Doctor of Medicine...	Columbus
Sylvester Louis Agnone—Bachelor of Science, Doctor of Medicine..	Youngstown

(Twenty-five candidates)

COLLEGE OF AGRICULTURE

Dean: ALFRED VIVIAN

BACHELOR OF SCIENCE IN AGRICULTURE

Harold Griffith Alberty.....	Pataskala
Walton Norwood Glover Alcorn.....	Columbus
Raymond Elmer Alders, A.B. (Hiram College).....	Mineral Ridge
Robert William Barr.....	Columbus
John Glenn Bates.....	Salem
Orville Leasure Baughman.....	Zanesville
Earl Augustus Bauman.....	Sugar Grove
Hugh William Baumgardner.....	Sugar Grove
Norman Robert Bear.....	Dayton
Burton Fouts Bingham.....	Dayton
Harold Marteen Bishop.....	Milford Center
Israel Park Blauser, B.A.....	Basil
Arthur Oliver Bower.....	Cleveland
Walter May Buchanan.....	Columbus
Walter George Burwell.....	Columbus
Daniel William Buskirk.....	Independence
Carlton Fuller Christian.....	Columbus
Chih Sen Chu.....	Hai Yen, China
Stuart Constable.....	Columbus

Walter Bitler Copeland.....	Wapakoneta
Willis Forrest Corcoran.....	Circleville
Harvey Stewart Crass.....	Cleveland
Raymond Evans Daniels.....	Alexandria
James Bruce Davison.....	Wooster
George Edmund Dix.....	Uhrichsville
Dalton D. Dowds.....	Mt. Vernon
John Levi Egbert, A.B. (Hiram College).....	Everett
Walter Philip Elhardt.....	Miamisburg
Homer Robert Fisher.....	Condit
Walter Jones Fordyce.....	Dayton
Roy Bireley Foureman.....	Greenville
James Edward Frew.....	Coshocton
Herman Henry Gaebel.....	Brookville
Neal Gillam.....	Lorain
James Garvin Glass.....	Murphy, Idaho
*Glenn D. Greek.....	Columbus
Pryor Timmons Harmount.....	Chillicothe
Ellis Leroy Hawk.....	Shelby
Benjamin Parker Hess.....	Columbus
William Jennings Himes.....	Wooster
Ira Seymour Hoddinott.....	Medina
Frederick William Hoen.....	Maumee
Harold Bennire Holden.....	Harrison
James Ink.....	Canton
Melvin Ellsworth Jackman.....	Lakewood
Harley Roger Jones.....	Columbus
William Kauffman.....	DeGraff
Otto Claire Kline.....	West Salem
Herman Julius Krohm, Jr.....	Dayton
Edwin Richard Kuck.....	Botkins
Chester Charles Lang.....	Woodsfield
Rowland Woodhams Laughlin.....	Belle Center
Ralph Edwin Lock.....	Cleveland Heights
John Arthur McCalmont.....	Sebring
Lewis David McClure.....	Columbus
Francis Graham McCollister.....	Clarksburg
Eugene G. McCoy.....	Emlenton, Pa.
Thomas Cecil McDonald.....	Cleveland
Carl Willard McElwain.....	LaFayette
Herbert Tanner Marshall.....	Nashport
Harvey Robert Martin.....	Coshocton
Joseph John Mattus.....	Chagrin Falls
John Williard Matz.....	Clyde
Eugene Howard Miller.....	West Mentor
Theodore Richard Newell.....	Lakewood
Willis Bernard Noble.....	St. Marys
Francis Wendell Paddock.....	Columbus
Albert Finch Peterson.....	Frankfort
William Russell Peterson.....	Frankfort

* Two Degrees.

Samuel Avery Porter.....	Malta
Willard Hamilton Potter.....	Auburn, N. Y.
Henry Lorain Reed, B.S. (Mt. Union College).....	Wilmot
Homer Clay Richardson.....	Brooklyn Heights
William Frank Rofkar.....	Port Clinton
Ulric Coburn Roush.....	Hillsboro
Harry Brogotti Rowland.....	New London
Atsushi Sato.....	Maiyamachi, Japan
Irwin Leroy Saveson.....	Shepard
*George Jacob Schmidt.....	Bainbridge
Clyde Foster Shackson.....	Chagrin Falls
Loren Patton Shaw.....	Utica
Arthur Hastings Smith.....	Scio
Raymond Vinson Smith.....	Cincinnati
Walter Wilbur Smith.....	Dayton
Ross Leland Snyder.....	Quincy
Robert Hugh Spiers.....	Freedom Station
Whitney Bowman Stout.....	Circleville
Robert Cheyne Strachan.....	Cleveland
Fred McGue Thrall.....	Cleveland
George W. Timmons.....	New Holland
Earl Bryon Tussing.....	Canal Winchester
William Ralph Vanlandingham.....	Loveland
Herbert Henry Varney.....	Chardon
Hoy William Wagner.....	Fredericktown
Roger Barton Warner.....	Woodstock
Irvin Hoffman Weaver.....	Salem
Walter Frederick Weaver.....	Marysville
Howard Mitchell Wells.....	Alice
Gilbert William Wernicke.....	Cleveland
William Neal Wilkerson.....	Osborn
Harry Dana Williams.....	New Vienna
Harold Newton Wilson.....	Fredericktown
Lucien Harrell Woodhouse.....	Sigma, Va.

(One hundred and three candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Thirza Gladys Ault.....	Worthington
Helen Lynn Baker.....	Woodville
Phoebe Annanette Blue.....	Columbus
Marion Rosella Boggs.....	Lexington
Frances Emerson Bradbury.....	Columbus
*Dorothy Louise Butterworth.....	Columbus
Eleanor Elizabeth Clark.....	Medina
Zula May Dowler.....	Groveport
Beatrice Blanche Evans.....	Columbus
Jeannotte Francis.....	Plain City
Beulah Electa Graber.....	Beach City
Glenna Arcola Henderson.....	Byesville

* Two Degrees.

Irene Hoppe.....	Foster
Eva Jeanne Louise Fair Huffman.....	Columbus
Helen Lavon Huffman, B.A., B.Sc. in Edu.....	Columbus
Alice Hughes.....	Cuyahoga Falls
Helen Inboden.....	Columbus
Vivian DeVera Ink.....	Lexington
Anna Elizabeth Kaiser.....	Rocky River
Ina Beatrice Kiehl.....	Columbus
Lucile Olivia Lichtensteiger.....	Wren
Mary Adelaide Lintner.....	Columbus
*Mary Vastine Lunn.....	Columbus
Pearl McGlashan.....	Frankfort, Ill.
Margaret Elizabeth Macy.....	Union City, Ind.
Gladys Evelyn Martin.....	Valley City
Margaret Helen Merickel.....	Toledo
Rose Fay Miller.....	Columbus
Marjorie Anne Minnich.....	Columbus
Mary Louella Moore.....	Pataskala
Edith Rymer Nida.....	Columbus
Martha Eby Pollard.....	Toledo
Susan Roof.....	Franklin
Eldred Ruffner.....	Columbus
Masie Catherine Schoger.....	Cleveland
Eunice Louise Schrock.....	Worthington
Margaret Theora Snider, B.A.....	Columbus
Florence Mary Steiger.....	Hamilton
Mary Stewart Taylor.....	Portsmouth
Zola Crystal Towe.....	Haviland
Margaret Marian Walker.....	Columbus
Ursula Ambrose Wangler.....	Columbus
Margie Jane Webster.....	Bryan
Sylva M. Whinnery.....	Salem
Ruth Louise White.....	Columbus
Darlene Edna Willis.....	Chebanse, Ill.
Marion Emeline Worchester.....	Oberlin
Dorothy Elizabeth Wright.....	Columbus
Florence Fern York.....	Versailles
Florence Minerva Young.....	Cleveland
Hoylande Denune Young.....	Columbus

(Fifty-one candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN AGRICULTURE

As of the Class of 1921

Thomas Edwin McLaughlin.....	Columbus
Robert Arthur Mayne.....	Miamisburg
August Edward Miller.....	Zanesville
Sterrit Graham Nelson.....	London

* Two Degrees.

James Dwight Palmer.....	Cleveland
Ray Carl Spilker.....	Perrysburg
(Six candidates)	

As of the Class of 1922

William Albert Crumley.....	Xenia
Maurice Bushnell Gillespie, B.A.....	McConnellsville
Guy Garret Glunt.....	Union City, Ind.
Foster Hoffman.....	Leipsic
Ormann Reuben Keyser.....	Homerville
Corwin Lang Knowles.....	Portsmouth
Paul William Mengert.....	Columbus
Thomas Albert Reber.....	Upper Sandusky
Albert B. Sanderson.....	Bremen
Joseph Elbert Schickedantz.....	Selma
Frederick John Trapp.....	Gahanna
(Eleven candidates)	

BACHELOR OF SCIENCE IN FORESTRY

As of the Class of 1917

Harold Russell Richards.....	Sidney
(One candidate)	

BACHELOR OF SCIENCE IN HOME ECONOMICS

As of the Class of 1921

Hazel Furney.....	Kenton
Lucille Josephine Manney, B.A.....	Columbus
(Two candidates)	

COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

Dean: WILLIAM E. HENDERSON

BACHELOR OF ARTS

Harold Francis Adams (with distinction).....	Beaver
*Mary Catherine Adams.....	Columbus
James Lionel Alloway (with high distinction).....	Columbus
Gladys Amlin.....	Columbus
Hayward Mechling Anderson.....	Portsmouth
Mary Louise Arnett.....	Columbus
Leslie Jacobs Arnold.....	Columbus
Dorothy Kathryn Axline (with distinction).....	Findlay
Georgea Alden Backus.....	Columbus
William Zacharias Bair.....	Hanover, Pa.
Philip Wolff Baker.....	Painesville
John Bakos.....	Belle Valley
Deborah A. Barack.....	New Haven, Conn.
Galen Floyd Basinger.....	Columbiana
*Frank Victor Bayer.....	Columbus
Ethel Mildred Beck (with distinction).....	East Palestine

Carl Joseph Beckert.....	Piqua
Helen Louise Beecher (with distinction).....	Toledo
Irene Beery.....	Columbus
Dorothy Manning Bennett.....	Columbus
Irena Turney Biglow.....	New London
Boyd Cline Bly.....	West Unity
John King Boardman.....	Columbus
Ruth Margaret Bootes.....	Xenia
Robert Rownd Booton.....	Columbus
Lorenz Byron Bowman.....	Columbus
Dorothy Elaine Boyd.....	Columbus
Dorothy May Boyd.....	Columbus
*Verna Mae Boyle.....	Columbus
John Lucius Breeze.....	Columbus
Samuel Bronsky.....	Cleveland
Elizabeth Melvina Brown.....	Seaman
David Tarbell Buchanan.....	Columbus
Margaret Burke (with distinction).....	Dayton
*Dorothy Louise Butterworth.....	Columbus
Mary Elizabeth Byers.....	Lilly Chapel
Lucile Capelle.....	Columbus
Samuel Frederick Cary.....	Columbus
Walter Williams Chamblin, Jr.....	Columbus
Miriam Page Cherry.....	Columbus
Chang-Tong Walter Chu, A.B. (Cedarville College).....	Hangchow, China
*George Dewey Clark.....	Columbus
Elizabeth Beck Clemenger.....	Akron
Mildred Louise Cline.....	Columbus
Oscar Ludlum Coddington.....	Columbus
Mildred Lucille Coen.....	Columbus
*Joseph Leo Conrad.....	East Sparta
Clare Eckard Cook.....	Columbus
Helene Corzilius (with high distinction).....	Columbus
Ruth Alice Cox.....	Columbus
Martha Elizabeth Crum (with high distinction).....	Columbus
Eloise Fribley Dann.....	Albany, Ga.
Martha Darby.....	Columbus
Louise Ellsworth Davis.....	Cleveland
*Ruth Ellsworth Davis.....	Cleveland
Maude Antoinette Dickinson.....	Columbus
Ruth Elise Dubois.....	Muskogee, Okla.
Russell Everett Duke.....	Dayton
Mary Elberfeld Dumont.....	Columbus
Irvine Mitchell Dungan.....	Troy
Robert Thomas Dunn.....	Columbus
Linden Forest Edwards.....	Reynoldsburg
*Ethel Baucher Evans.....	Youngstown
Katherine Mary Ferris.....	Columbus
Carl Louis Fischer.....	Evansville, Ind.
Emily Lenore Fleming.....	Columbus

Mary Ruth Ford.....	Columbus
Ferryl Foster.....	Mechanicsburg
George M. Froian.....	Columbus
Huston Fenn Fulton.....	Columbus
Mildred Gardner.....	Bucyrus
Leon Milton Garrette.....	Hazleton, Pa.
*Jacob Alphonsus Guerlein, Jr.....	Scenery Hill, Pa.
Margaret Wilhelmina Gibbs.....	Columbus
Beatrice Gilham.....	Toledo
Hellen Marion Gilmore.....	Cleveland
*Vivienne Goll.....	Stryker
Harry Leroy Gray.....	Columbus
*Glenn D. Greek.....	Columbus
Ralph Harrison Greenbaum.....	Chillicothe
Sara Madge Grubb.....	Slippery Rock, Pa.
Elizabeth Grace Guerin.....	Columbus
Ralph Henry Hagelbarger.....	Cuyahoga Falls
William John Hannum (As of the Class of 1921).....	Columbus
Harlan Henthorne Hatcher (with high distinction).....	Columbus
J. Wesley Hatcher.....	Columbus
Helen Hazelton.....	Columbus
Ione Lillian Hazen.....	Columbus
*Catherine Gertrude Hendrickson.....	Portsmouth
Olive White Higgy (As of the Class of 1921).....	Logan
Helen Adelaide Hopkins.....	Columbus
Ruth Eve Hornish.....	Defiance
Helen Lenore Hubbard.....	Tulsa, Okla.
Iolas Melitus Huffman.....	Chandlersville
William Leser Huske.....	Lakewood
Robert Bellenden Bennett Hutcheson.....	Columbus
*Clayton Darius Hutchins.....	Dayton
Howard Linton Hyde (with high distinction).....	Chillicothe
Ruth Jelen.....	Cincinnati
*Margaret Florence Johnson.....	New Lexington
Deane Brewster Judd (with distinction).....	Columbus
Katherine Spillman Judd.....	Columbus
Ada Bess Kahler.....	Plain City
Elsie Beulah Kemery.....	Columbus
Helen Geddes Ketcham.....	Toledo
Abe Sam Kohn.....	Columbus
Adele Frances Koos.....	Columbus
Virginia Dolores Krier.....	Columbus
Lena Marie Lane.....	Columbus
Ruth Laughlin.....	New York City
Walter Jennings Leppert.....	Hilliards
Hyman Lieberman.....	Cleveland
McKinley London.....	Cleveland
Luis Ventus Lopez.....	San Isidro, P. I.
David Tod Gilliam Lum.....	Columbus
*Mary Vastine Lunn.....	Columbus

Donald Baker McCollm.....	Columbus
Arthur Jewett McCullough.....	Ironton
Donald Edward McGuire.....	Windham
Stella Irenemma Maile.....	Columbus
James Raymond Manak.....	Cleveland
Donald David Martens.....	Columbus
John Joseph Martin.....	Columbus
Winfred Lycurgus Martindale.....	West Milton
Greta Elizabeth Mason.....	Milwaukee, Wis.
Robert Tussing Mason.....	Milwaukee, Wis.
Gertrude White Mayne.....	Bucyrus
Thelma Mench (As of the Class of 1921).....	Columbus
Benjamin Menzes (with distinction).....	Brooklyn, N. Y.
Marian Lillian Merton.....	Peninsula
Ruth Metters.....	Columbus
Mardig Manoug Mihigian.....	Columbus
Mabel Miller (As of the Class of 1920).....	Huntington, W. Va.
Richard Ambrose Mills.....	Columbus
Marie Mirvis.....	Zanesville
Howard Thomas Mitchell.....	Marion
Chandler Hersman Montgomery (with distinction).....	Piqua
Leona Mae Moorehouse.....	Huntington, W. Va.
Helen Estella Mull.....	Columbus
Mildred Beatrice Neal.....	Tippecanoe City
Lester Emanuel Neff.....	Tiro
Claud Revere Neiswander (with high distinction).....	Rawson
Stebelton Henry Nulle (with distinction).....	Columbus
John Hugh O'Hara.....	Lockbourne
Harold Malcolm Oster.....	Cleveland
Mary Elizabeth Overholt (As of the Class of 1921).....	Wadsworth
Marie Vernona Packer.....	Columbus
Virginia Parry (As of the Class of 1921).....	Columbus
Margery Aikin Passmore.....	Columbus
Gertrude Elizabeth Patton.....	Girard
Richard Kenneth Pearson.....	Toledo
Thomas Ernest Pemberton.....	Roseville
Marcia Louise Pembroke.....	Columbus
*Louisa Butler Perin.....	Amelia
Morris Henry Phillips.....	West Park
Robert Thomas Pollard (with high distinction).....	Toledo
Elizabeth Agnes Pool.....	Quincy
*Mary Agnes Pusateri.....	Portsmouth
John Henson Ralls (with distinction).....	Columbus
Eleanor Irene Rauch.....	Columbus
Thelma Jane Reed.....	Gettysburg
Harry Louis Reinhart.....	Columbus
Alice Wilda Renick.....	Williamsport
Harold Smith Rice.....	Columbus
Fred Richard Roehm.....	Columbus
Andrew Earl Roper.....	Toledo

* Two Degrees

Hobart Ernest Rowlands.....	Delaware
Margaret Blanche Ryder.....	Garrettsville
Henry Melville Sayre.....	Columbus
*George Jacob Schmidt.....	Bainbridge
*Diathea Centuria Scholl.....	Chillicothe
Freda Anna Schulz.....	Columbus
Norman Clarence Schwenk.....	Cleveland
Lucille Marjorie Scott.....	Huntington, W. Va.
Henry Clay Segal (with distinction).....	Chillicothe
Lewis Andrew Seikel.....	Dover
Beryl Weston Sharer.....	Bucyrus
Jay Emerson Sharp.....	Columbus
Clarence Byron Sheller.....	Bettsville
Mary Louise Shockey (with distinction).....	Columbus
Ruth Jeanette Shollenbarger.....	Columbus
Joseph Clarence Shouvin.....	Springfield
William Sheldon Shrieves.....	Wilmington
Samuel Silverman (with distinction).....	Columbus
Ruth Elizabeth Skimming.....	Columbus
Cecilia Elizabeth Slawik (with distinction).....	Alliance
Elizabeth Keith Smith.....	Parkersburg, W. Va.
*Charles Conrad Snyder.....	Columbus
Anna Lougeay Springer.....	Columbus
Wilmer McClure Stevenson.....	McComb
Wayne Edwin Stichter (with distinction).....	Bradford
Julius Frederick Stone, Jr.....	Columbus
Christine Jeanette Sulzer.....	Columbus
Kate M. Sweeney (As of the Class of 1921).....	Cincinnati
Diana Taylor.....	Columbus
Katharine Colmery Taylor.....	Columbus
William Adrian Thomas.....	Salesville
Erma Amelia Tilton.....	Columbus
Luella May Tilton.....	Columbus
Frances Timmons (with distinction).....	New Holland
Lucile Todd.....	Huntington, W. Va.
Helen Vail.....	Columbus
Alta Van Benschoten.....	Clyde
Katherine Marcella Varley.....	Columbus
Margaret Frances Varley.....	Columbus
Harry Michael Veh.....	Columbus
Verdi Maurine Watson.....	Columbus
Karl Duren Way.....	Kinsman
Rosina Kahn Weiler.....	Columbus
Peter Jaeger Weiss.....	Cleveland
Annie Eunice Wells.....	Alexandria
Kathryn Louise White.....	Bucyrus
Lowell Orval White.....	Greenville
Mildred Harriet White.....	Cedarville
Stanley Laurence Whiteside.....	South Solon
Mabel Elogeanne Wickham.....	Toboso

* Two Degrees

Helen Eugenia Williams.....	Columbus
Dorothy Wilson.....	Paonia, Colo.
*James Holton Wilson.....	Columbus
Janice Margaret Wilson.....	Jeffersonville
Malvern Wilson.....	Nelsonville
Wanda Frame Wilson.....	Kimbolton
Hugh Carlile Winbigler.....	Shelby
Evelyn Arminda Winters.....	Columbus
Maxwell Emil Wolgamot.....	Richwood
Frank Bennett Woodland.....	Columbus
William Heermans Wright (with high distinction).....	Warren, Pa.
Washington Walker Wyatt.....	Cincinnati
Charles Russell Younger.....	Celina
Chin-Chang Yuan.....	Canton, China

(Two hundred and thirty candidates)

BACHELOR OF SCIENCE

*Scharrold McKinley Adams.....	Dayton
*Sylvester Louis Agnone.....	Youngstown
Roland DeVere Bateman.....	Zanesville
Harry Everett Chalker.....	Garrettsville
Harold Warner Davis.....	Rio Grande
Moses Dolganos.....	Bayonne, N. J.
Leland Stanford Evans.....	Columbus
Merritt Mathew Gibson.....	New Straitsville
*Walter Harold Hamilton.....	Columbus
Richard Lincoln Hane.....	Florida
Jesse Myron Hays.....	Newcomerstown
Raymond Thomas Holzbach.....	Niles
Willis Herbert Huron.....	Tipton, Ind.
Kenneth Joseph Kemp.....	Columbus
Theodore Charles Kiess.....	Defiance
Oscar Adair Lashley.....	Steubenville
John William Lauferweiler.....	Minster
Robert Mayclim Lemmon.....	Cadiz
Vernon Scott Lilly.....	Circleville
Emil Julius Meckstroth.....	Botkins
Charles Werner Mueller.....	Columbus
Cyril Edward Myers.....	Bucyrus
Louis Meyer Piatt.....	Columbus
Harry Clay Powelson.....	Etna
John Egnew Schrider.....	Bryan
Edwin Andrew Seifert.....	Wheeling, W. Va.
Burdett Earl Shreffler.....	Fremont
George James Thomas.....	Byesville
Jacob Allen Ziskind.....	Columbus

(Twenty-nine candidates)

* Two Degrees

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR
BACHELOR OF ARTS

As of the Class of 1921

Elizabeth Batterham.....	Asheville, N. C.
Eva Ellen Beckett.....	Columbus
Eugenia Bending, B.Sc. in H.E.....	Columbus
Stephen Colistus Colopy.....	Buckeye City
Firmin Frederick DeRoche.....	New Washington
Henry Andrew Froebe.....	Piqua
Harriet Gertrude Gaulke.....	Columbus
Kathryn Louise McClure.....	Columbus
Ruth Ellen Mendenhall.....	Greenville
Robert Allen Moore.....	Columbus
Lorenz Charles Nicol.....	Plain City
Oliver Leslie Reiser.....	Columbus
Harriet Silverman.....	Columbus
Ruth Marie LeSage Thornburgh.....	Huntington, W. Va.
Ruth Marie Veth.....	Columbus
Jacob Arthur Weller.....	Bucyrus

(Sixteen candidates)

COLLEGE OF COMMERCE AND JOURNALISM

Dean: JAMES E. HAGERTY

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Frank Ayres.....	Hillsboro
Rob Roy Bangham.....	Wilmington
Lee DeForest Beechy.....	Columbus
Ralph Adam Beers.....	Newcomerstown
Cecil Alsan Bennett.....	Westerville
Verne McKinley Bingham.....	Farmdale
Max Murry Bridgman.....	Trenton
Charles Lawrence Brobst.....	Columbus
Edward George Burns, Jr.....	Cincinnati
Victor Frank Cada.....	Cleveland
Joseph Camden Clark.....	Columbus
Harold Nash Cole.....	Alliance
Richard Sinclair Cott.....	Columbus
George Kenower Cunningham.....	Fostoria
Clyde Griffith Davies.....	Martins Ferry
Earl Sylvester Dearth.....	Lebanon
Lucian Jayson DeMore.....	Cleveland
Ellwood Oakley Dille.....	Mt. Victory
Fred Leon Donnally.....	Columbus
Balthasar Bernard Eisenhauer.....	Huntington, Ind.
Edgar Bernhardt Eisley.....	Wapakoneta
Elmer Ethan Eller.....	Van Wert
Isabel Van Fossen Evans.....	Youngstown
Harold Fischer.....	Columbus

* Two Degrees

Donald Alfred Fisher.....	Flushing
Robert Norpell Frickey.....	Columbus
Russell Vause Giffin.....	Columbus
Donald White Glenn.....	Cambridge
Gerald Linas Grant.....	Columbus
Harkness Gould Hard.....	Painesville
Waldron John Hargitt.....	Cincinnati
Walter Emmett Harney.....	Sheldon, Iowa
Edwin Woolard Harris.....	Columbus
Howard Everett Hawk.....	Bryan
Julian Alfred Hawk.....	Bryan
Harold Mann Holman.....	Columbus
Giles Nelson Hoover.....	Columbus
George Kuo-Hsiang Huang.....	Peking, China
Marie Naomi Hurlbaeus.....	Medina
Paul Sherman Jackson.....	Columbus
William Boyd Kegg.....	Grove City
Wayne William King.....	Alliance
Howard Cleo Kuhnle.....	Arcanum
Robert Phillip Lindmiller, B.S. (Case School of Applied Science)	
.....	East Cleveland
Russel Edmund Lyons.....	Roscoe
Roger Loren Makemson.....	De Graff
Stanley Edward Martin.....	Columbus
Ralph Alfred Metzger.....	Akron
Elra Norris Miller.....	Mendon
James Koehl Miller.....	Columbus
Loyal Hawkins Mortley.....	Bellevue
Seibert Woodbury Mote.....	Union City, Ind.
Nelson John Neubig.....	Columbus
George Thomas Owston.....	Columbus
Robert Dean Patton.....	Columbus
Leslie John Paxson.....	Fayette
Smith Lester Rairdon.....	De Graff
Ralph Hare Richards.....	Columbus
Harry Wallace Schannell.....	Youngstown
Carl Julius Schoenfeld.....	Columbus
Saul Samuel Schonberg.....	Newark
George Edward Schroth, Jr.....	Tiffin
Frank Leonard Schwecheimer.....	Portage
Earl Eugene Sebring.....	Sebring
Abraham L. Segal.....	Chillicothe
Harry Arnold Shaw.....	Westerville
Milton Otis Shaw.....	Lancaster
Harley Foster Sheaffer.....	Troy
Edmund Landon Siegrist.....	Uhrichsville
Henry John Siegwarth.....	Barberton
Roland Diehl Smith.....	Woodsfield
Weldon H. Smith.....	Fayette
Carl Edward Solomonson.....	Niles
Clifford Wilson Southwick.....	Columbus

Milferd Aaron Spayd.....	Van Wert
Laurence Starr Staples.....	Springfield
Lauer Whitmer Stephenson.....	Rosewood
Charles Wesley Swormstedt.....	Madeira
Charles Andrew Taylor.....	Martins Ferry
Lowell Staadt Terrill.....	Ridgeway
Olin Eugene Thomas.....	Cleveland
Earl William Tite.....	Cleveland
Edgar Elmer Vance.....	Alliance
Charles Robert Weaver.....	Yountstown
Morgan Emerson Williams.....	Columbus
Leo Clark Wilson.....	Delaware
Donald Williams Wiper.....	Columbus

(Eighty-seven candidates)

BACHELOR OF SCIENCE IN JOURNALISM

Harold Corbin Blakeslee.....	Ashtabula
Waldo Prentiss Brown (As of the Class of 1921).....	Mt. Cory
Carrol Irwin Burtanger.....	Dayton
Bernice Naomi Copeland.....	Columbus
Ruth Marie Juve.....	Ravenna
Ralph Snyder McFeely.....	Osborn
Philip Wiley Porter.....	Lakewood
Harold Wetherholt.....	Gallipolis

(Eight candidates)

BACHELOR OF SCIENCE IN SOCIAL SERVICE

Anna Elvira Sutter Brenfleck.....	Lima
Albert Curtiss.....	Cleveland
*Ruth Ellsworth Davis.....	Cleveland
Katharine Jane Dunn.....	Columbus
Ruth Doretta Fledderjohann (As the Class of 1921).....	Columbus
Rose Leah Greenstein.....	Columbus
Helen West Hart.....	Columbus
Jean Kellenberger.....	Chillicothe
Tillie Eda Neubig.....	Columbus
Josephine Stephens Rudy.....	Chicago, Ill.
Frances Leona Segal.....	Chillicothe
Helen Elizabeth Sykora.....	Cleveland
Virginia Elliott Thompson.....	Columbus
Lucille Wise.....	Lima
Miriam Elinor Zinn.....	Columbus

(Fifteen candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

As of the Class of 1921

Dallas Sinclair Bolon.....	Columbus
Harry Lee Gibbons.....	South Zanesville
Luke E. Miller.....	Columbus
John Lachlan Taylor.....	Duluth, Minn.

(Four candidates)

* Two Degrees

As of the Class of 1922

Arthur Lee Bowyer.....	Kinsman
Richard Mac Brown.....	Ashland
Chih Chuan Chu.....	Ka Shing, China
Harry Emmett Haymes, B.Sc. in Agr.....	Mt. Vernon
Raymond Franklin Hodges.....	Cincinnati
Po Kwan Long.....	Canton, China
Arthur Dewey Nieding.....	Vermilion
Lester Frederick Schumaker.....	Gibsonburg

(Eight candidates)

BACHELOR OF SCIENCE IN JOURNALISM

As of the Class of 1921

Charles Bugh Hunt.....	Somerset
------------------------	----------

(One candidate)

BACHELOR OF SCIENCE IN SOCIAL SERVICE

As of the Class of 1921

Catherine Elizabeth Thompson.....	Lorain
-----------------------------------	--------

(One candidate)

COLLEGE OF DENTISTRY

Dean: HARRY M. SEMANS

DOCTOR OF DENTAL SURGERY

Elmer Matthew Bins.....	Lorain
Richard W. Branfield.....	Alliance
Marcus Augustus Buck.....	Germantown
Russell Harold Dines.....	Columbus
Harold Lorenz Dute.....	Amherst
J. Manly Foster.....	Columbus
Robert Henry Gehring.....	Toledo
Homer Milo King.....	Kenton
Milton Stanley Leidner.....	Cleveland
Arthur Elliott Luckart.....	Columbus
Leon Charles Monks.....	New Haven, Conn.
Leroy John Monks.....	New Haven, Conn.
Richard Dudley Robinson.....	Findlay
Henry Frederick Sachs.....	Columbus
Andrew Senich.....	Lorain
Howard Jacoby Smith.....	Ashland
William Vernon Walton, Jr.....	Columbus

(Seventeen candidates)

COLLEGE OF EDUCATION

Dean: GEORGE FREDERICK ARPS

BACHELOR OF SCIENCE IN EDUCATION

*Mary Catherine Adams.....	Columbus
Lucile Almendinger.....	Prospect

Mildred Martha Babbitt.....	New Albany
Elinor Julia Barnes.....	Columbus
Helen Cecilia Barr.....	Columbus
Ella Mae Blakeney.....	Akron
May Aungst Blanchard, B.S. (University of Pittsburgh), B.A.....	Columbus
*Verna Mae Boyle.....	Columbus
Anne Bradbury.....	Gallipolis
Gladene Lucile Brewer.....	Akron
Gertrude Brown.....	Columbus
Alta Bullard.....	Mechanicsburg
Harold Livingston Collins.....	Columbus
*Joseph Leo Conrad.....	East Sparta
Elizabeth Marie Cott.....	Columbus
Mildred Adah Cowell.....	Toledo
Pearl Mae Danback.....	Mansfield
Mary Josephine Eberly.....	Columbus
Roscoe Huhn Eckelberry.....	Columbus
Beatrice Bessie Edmiston.....	Columbus
Margaret Lucile Eichhorn.....	Barnesville
Flora Louise Elliott.....	Columbus
Elizabeth Evans.....	Columbus
*Ethel Baucher Evans.....	Youngstown
Leota Catherine Fitzpatrick.....	Newark
Martha Mildred Fleming, B.Sc. (Dom. Sci.).....	Columbus
Gaylord Austin Folk.....	Findlay
Opha John Gerwig.....	Little Otter, W. Va.
Beatrice Gilbert.....	Niles
Elsie Gluck.....	Columbus
*Jacob Alphonsus Gherlein, Jr.....	Scenery Hill, Pa.
*Vivienne Goll.....	Stryker
Audrey Margaret Golladay.....	Columbus
Albert Elza Gower.....	Columbus
Raymond Gillette Guthrie.....	Columbus
Maud May Haley.....	McComb
Carmen Adelaide Hambleton.....	West Jefferson
Herschel Albert Hamlin.....	Columbus
Frances Hannan.....	Columbus
Helen Pauline Harris.....	Edison
Mary Jeanette Heagy.....	Indianapolis, Ind.
*Catherine Gertrude Hendrickson.....	Portsmouth
Margie Ovilla Hensell.....	La Rue
Mildred Mae Horton.....	Columbus
*Clayton Darius Hutchins.....	Dayton
*Margaret Florence Johnson.....	New Lexington
Katherine Olivia Jones.....	London
Lillian Mary Jones.....	Columbus
Violet Lillian Kern.....	Casstown
Louise Amelia Ketterer.....	Columbus
Ruth Vivian Kline.....	Greentown
Hollis Marie Lenhart.....	South Zanesville

Floyd Eugene Lentz.....	Medina
James Bryan Lepley.....	Howard
Marie Lowenstein.....	Columbus
Dorothy Lynn McCullough.....	Columbus
Jacob Daniel McKinley, A.B. (Rio Grande College).....	Lucasville
Helen Marie McVicker, B.A. (As of the Class of 1921).....	Chillicothe
Notley Sinclair Maddox.....	Clayton, Ill.
Emilie Caroline Maier.....	Columbus
Oliver Clayton Martin, B.A.....	Washington C. H.
Helen Lenore Mason.....	Columbus Grove
Thelma Elizabeth Matheny.....	Columbus
Lillian Elizabeth Meloy.....	Groveport
Mary Elizabeth Moler.....	Columbus
Charlotte Elizabeth Moore.....	Dayton
Cleo Meta Moore.....	Marion
Margaret Jane Moore.....	Huntington, W. Va.
Dorothy Cornelia Nicholson.....	Columbus
Lucile Isabelle Norris.....	Middlefield
Elsie Mae Palmer.....	Nevada
*Louise Butler Perin.....	Amelia
Martha Jane Peterman.....	Cochran, Pa.
*Mary Agnes Pusateri.....	Portsmouth
Elma Lucille Rains.....	Columbus
Bertha Mary Rice.....	Columbus
Lorna Maude Richard.....	Belle Center
Edgar Christopher Roberts.....	Columbus
Fern Hunter Robinson.....	Columbus
Sophia Elizabeth Roess.....	Cridersville
Sedonia Rotan.....	Columbus
Morris Brown Sanford, B.Sc. in Agr.....	London
*Diathea Centura Scholl.....	Chillicothe
Anna Rolfe Seeley (As of the Class of 1921).....	West Mentor
Velma Fashoda Shaffer (As of the Class of 1921).....	Columbus
Dorothy Mae Siebert.....	Columbus
Eva Jane Smith.....	Columbus
*Charles Conrad Snyder.....	Columbus
Genevieve Taylor.....	Columbus
Belva Tucker.....	Ashland
Mabel Gertrude Turner.....	Greenville
Caroline Tyler.....	Columbus
Ruth Marie Veth, B.A.....	Columbus
Minna Louise Volk.....	Columbus
Gertrude Edythe Weagly.....	Columbus
Helen Louise Weinman.....	Columbus
Ralph Leon Wilkerson.....	Glendale
Birdia Mae Williams.....	Ironton
Edith Mae Williams.....	Columbus
Marie Owen Williams.....	Columbus
Marion Bertram Woodward.....	Columbus

(One hundred and one candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR
BACHELOR OF SCIENCE IN EDUCATION

As of the Class of 1921

Evadne Barrett.....	Kenton
Mary Emilie Benjamin.....	Sidney
Mary Amelia Brown.....	Columbus
Bessie Cartmell, B.A.....	Columbus
Ethel Louise Coldren.....	Uhrichsville
Gladys Irene DeBolt.....	East Liverpool
Mary Eileen Hannon.....	Logansport, Ind.
Joseph H. Hixon.....	Cambridge
Guy Fearle Jackson.....	Lancaster
Edwin Michael Kaylor, B.A.....	Danville
Henry Charles Kohler.....	Dayton
Marguerite Mary Lewis.....	Newport, Ky.
Helen Charlotte Mawer.....	Cleveland
Mary Martha Monica Miller, B.A.....	Columbus
Elmer T. Naylor.....	Columbus
William Frederick Reed.....	Pomeroy
Edith May Stoker.....	St. Marys
Gloria Strait, B.A.....	Columbus

(Eighteen candidates)

COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

BACHELOR OF ARCHITECTURE

Moses Phillips Halperin.....	Cleveland
Lester Kilgore (As of the Class of 1913).....	Canton
Milton Smith Osborne.....	Zanesville

(Three candidates)

BACHELOR OF ARCHITECTURAL ENGINEERING

Samuel Frederick Albrecht, Jr.....	Lima
Louis Edgar Albright.....	Columbus
William Frederick Breidenbach.....	Dayton
Loren Glenn Brock (As of the Class of 1918).....	Lytle
Calvin Harman Cool.....	Dayton
Marion King Hindman.....	Columbus
Robert Alan Lewis.....	Columbus
John Patrick Macelwane.....	Port Clinton
Merle Thompson Orr.....	Newark
Frank Edward Whitehouse.....	Columbus

(Ten candidates)

BACHELOR OF CERAMIC ENGINEERING

Earl Roy Curry.....	Willoughby
Arthur Leland Donnenwirth.....	Bucyrus
Harry Emmett Ebright.....	Columbus
Ralph Edward Hanna.....	Columbus

Richard Samuel Kane.....	Columbus
Donald Miles McCann.....	Zanesville
Corwin Ross Minton.....	Seville
Burnette Purcell.....	Columbus
Willard Stief.....	Carey
Buhel Edward Whitesell.....	Salina, Pa.

(Ten candidates)

BACHELOR OF CHEMICAL ENGINEERING

Warren Jay Baker, Jr.....	Toledo
Rodney Allison Bell.....	Ashley
Benjamin Blumenthal.....	Hamilton
Horace Brooks Cooke.....	Columbus
Klahr Alfred Cover.....	Cortland
Curtis Franklin Eagle.....	Miamisburg
Ferdinand Peter Fischer.....	Fremont
Robert James Gotter.....	Louisville
Robert Franklin Heald.....	Bryan
Paul Randolph Hines.....	Cuyahoga Falls
Webster Bice Kay.....	Lima
Lehr Flynn Kissling.....	Columbus
Walter Jacob Klaiber.....	Miamisburg
Roland Meredith Kohr.....	New Philadelphia
*Clarence Alter March.....	Bowling Green
Victor Ross Morris.....	New Hampshire
Harold George Osborne.....	Mt. Gilead
Chang Yuen Pang.....	Canton, China
Clarence Alexander Ritchie.....	Cuyahoga Falls
Irvin Constantine Staeuble.....	Dayton
*James Holton Wilson.....	Columbus
Wallace Elijah Wing.....	Gibsonburg

(Twenty-two candidates)

CIVIL ENGINEER

John Milton Heffelfinger, Jr., B.C.E.....	Cleveland
---	-----------

(One candidate)

BACHELOR OF CIVIL ENGINEERING

Thomas Hieatt Baker.....	Columbus
Ben Karl Bare.....	Columbus
Herbert Aloice Brentlinger.....	Dayton
Christian Ehrenfried Burckel.....	Cleveland
Harold George Collins.....	Wauseon
Harold Glenn Dill.....	Columbus
Charles Peter Essman.....	Columbus
Gordon Eugene Evans.....	Gahanna
Thomas Nelson Finical.....	Cadiz
Laurel Cheney Gibbs.....	Urbana
John Joseph Heier.....	Dayton
William Henry Johnston.....	Columbus
Raymond Witmer Kehr.....	Washington, D. C.

Robert Lester Keller.....	Cleveland
John Leuty McClellan.....	Springfield
Otho Walter Merrell.....	Toronto
Walter Stephen Nugent.....	Harrison
Robert Bieser Prinz.....	Dayton
Paul Joseph Roberts.....	Cleveland
Tyrell Moore Robinson.....	Youngstown
Sidney Rockoff.....	Dayton
William Morrow Ruddicks.....	Toronto
Elon John Salsinger.....	Springfield
Elzie Jerome Staton.....	Middletown
Benton Hubert Swearingen.....	Okeana
Paul Mecartney Swingle.....	Columbus
Walter Benjamin Vick.....	Alliance

(Twenty-seven candidates)

BACHELOR OF ELECTRICAL ENGINEERING

Leo Dosch Barley.....	Dayton
Roy Leo Brown.....	Hamler
Eugene L. Caldwell.....	Huntington, W. Va.
Earl Kirkwood Clark.....	Dayton
*George Dewey Clark.....	Columbus
Charles Dell Creamer.....	Washington C. H.
Charles Hindman Cross.....	Macon
John Byron Dickson.....	Hicksville
Roland Frank Emch.....	Toledo
Fred Joseph Harbaugh.....	Bowling Green
Ellery Irving.....	Columbus
Raymond Hetzel Kaspar.....	Columbus
Stanley Mack Lawthers.....	Jewett
Walter Frederick Libben.....	Port Clinton
Carl Jacob Linxweiler.....	Dayton
Fay Douglas Lloyd.....	Columbus
Walter Ernest Metzger.....	Columbus
David Sands.....	Columbus
Robert Rogers Sheely.....	Leipsic
Joe Osmond Sherrard.....	Huntington, W. Va.
James Clarence Steffan.....	Dayton
Lorin Goodhue Ulm.....	Dayton
Kenneth West, B.A.....	Columbus
Arthur Glenn Wise, A.B. (Wittenberg College).....	Springfield
Richard Heath Wood.....	Worthington

(Twenty-five candidates)

BACHELOR OF ENGINEERING

Edwin Peelle Arthur.....	Wilmington
Ralph Herbert Ayers.....	Morrow
Boyd Orlando Bach.....	Belmore
Charles Kingsley Bradley, B.A.....	Columbus
Harold Stone Crooks.....	Marietta

* Two Degrees

Herschel Kenneth Dingey.....	McConnelsville
Creamus McGlouthen Evans (As of the Class of 1921).....	Cincinnati
Harry David Foster (As of the Class of 1920).....	Thornville
Russell Hunter Foster.....	Cleveland
Russel Herris Fry.....	Apple Creek
William Dean Moorhead.....	Leipsic
Edward Ellsworth Morris.....	Columbus
Gerald Joseph Mulligan (As of the Class of 1921).....	Columbus
Chalmer Donaldson Snyder.....	Bellaire
George Whitney Sower.....	Wauseon
Ottmer John Stallkamp.....	Delphos
Arthur Windett.....	Cleveland

(Seventeen Candidates)

BACHELOR OF MECHANICAL ENGINEERING

Carl Orville Baker.....	Dayton
Byron Frank Bower.....	Warsaw
Clarence John Braun.....	Grove City
Earl Eugene Bright.....	Columbus
Carroll James Cobb.....	Toledo
Vincent Marion DeMelto.....	East Cleveland
Wayne Mechling Dornbier.....	Columbus
Sterling Thomas Douth.....	Salem
Oscar Edward Falter.....	Columbus
Robert Newbold Feicht.....	Dayton
Walter Edward Franz.....	Pomeroy
Paul Eugene Frederick.....	Tiffin
Harold Donovan Gibson.....	Columbus
Adam William Hast, Jr.....	Berlin Heights
Fred Bruce Henry.....	Columbus
John Taylor Hobensack.....	Columbus
Richard Henry Hunter.....	Akron
Chester Butler Isaac.....	Columbus
John Morris Jervis.....	Cincinnati
Ralph Eugene Kaiser.....	Kenton
Frank Lester Knowles.....	South Solon
Leroy George Lechner.....	Portsmouth
Hyman Levine.....	Cleveland
Joseph Brigham Lindecker.....	Toledo
Charles Duncan McCall.....	Rochester, N. Y.
Thomas Malone Magruder, B.A.....	Columbus
Charles Frederick Marvin, Jr.....	Washington, D. C.
William Andrew Morrison.....	Chillicothe
Trenton Odell Price.....	Payne
Clarence Job Robinson.....	Wilmington
Edward Hanson Roos.....	Wellsville, N. Y.
Eulogio Cucio Tolentino.....	San Isidro, P. I.
Cornelius John Tracy.....	Columbus
Chester Harvey Wachalec.....	Kenton
Donald McKinney Wallace.....	New Carlisle
William Gordon Wheeler.....	Columbus

Victor Neighbor Yingling.....	Newcomerstown
Samuel Herman Yost.....	Columbus
(Thirty-eight candidates)	

BACHELOR OF METALLURGICAL ENGINEERING

Clement William Alspach.....	Columbus
James Russell Collier.....	Lakewood
Harold C. Harrison.....	Columbus
Clifford Earl Thompson.....	Canton
(Four candidates)	

ENGINEER OF MINES

Leopoldo Faustino, B.E.....	Calamba, P. I.
(One candidate)	

BACHELOR OF ENGINEERING IN MINING

Lawrence Barber Bennett.....	Youngstown
William Earle Clark.....	Springfield
Raleigh Maine Edgar.....	Athens
James Donald Kerr.....	Martins Ferry
Samuel Oldham Linzell, B.A.....	Columbus
Harry Lincoln Porter, Jr.....	Fostoria
Albert Edgar Savey.....	Columbus
(Seven candidates)	

BACHELOR OF SCIENCE IN APPLIED OPTICS

William Jesse Briggs, Jr.....	Columbus
Morgan Cryder Davies, Cert. in App. Optics.....	Columbus
Robert Benson Gordon.....	Columbus
Clarence Walter Morris.....	Columbus
Kenneth Ginn Smith.....	Salem
(Five candidates)	

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR
As of the Class of 1921

BACHELOR OF CHEMICAL ENGINEERING

Richard Dikran Osgerichian.....	Boston, Mass
Robert Harold Schmidt.....	Millersburg
(Two candidates)	

BACHELOR OF ELECTRICAL ENGINEERING

Paul Dickinson Breeze.....	Columbus
(One Candidate)	

BACHELOR OF ENGINEERING

Norman James Humason.....	Youngstown
(One Candidate)	

COLLEGE OF HOMOEOPATHIC MEDICINE

Dean: CLAUDE A. BURRETT

DOCTOR OF MEDICINE

*Scharrold McKinley Adams.....	Dayton
David John Bradley.....	Painesville

Benjamin Goldberg.....	Columbus
George Russell Henshaw.....	Uniontown, Pa.
E. Edwin Rakestraw.....	Napoleon
Horace Edwin Reed.....	Cincinnati
Harry G. McCabe Stack.....	Cleveland

(Seven candidates)

COLLEGE OF LAW

Dean: JOHN JAY ADAMS

JURIS DOCTOR

Robert Miller Hunter, B.A. (Ohio Wesleyan University).....	Columbus
Horace Steele Keifer, B.A. (Williams College).....	Springfield

(Two candidates)

BACHELOR OF LAWS

Carl Franklin Allebaugh.....	Wellsville
Rodney Brown Baldwin, B.A.....	Hilliard
Alfred Marion Barlow, B.A. (Rio Grande College).....	Gallipolis
*Frank Victor Bayer.....	Columbus
Henry Fowler Beeler.....	Hamilton
Wesley Howe Brackney, B.A. (Ohio Wesleyan University).....	Delaware
Edward Peter Buckenmyer, B.A.....	Swanton
Harry Siering Bugbee, B.A.....	Ashtabula
Kenyon Stafford Campbell, B.A.....	Columbus
William Peter Coyle, B.A.....	Columbus
Ralph Raeburn Cross, B.A. (Indiana University).....	Columbus
Clarence Jefferson Crossland, B.A.....	Zanesville
Sam Deutsch.....	Lorain
Edmond Whitney Dillon.....	Columbus
James Edward Donohoe.....	Witten, S. D.
James Baxter Evans, A.B. (Amherst College).....	Columbus
Wayne Humphrey Fogle.....	Columbus
Markley Frankham, B.A.....	Columbus
Emanuel Richard Ginsburg.....	Cleveland
Leonard Elliott Ginsburg.....	Cleveland
Abraham Greenspun.....	Cleveland
John Clayton Harlor, B.A.....	Columbus
Richard Hains Hildebrant.....	Wilmington
David Everett Jones, B.A.....	Columbus
Harold Lee Kime, B.A.....	West Salem
Harold Edwin Kuhn, B.A.....	Millersburg
James Ferdinand Logsdon, B.A.....	Columbus
Harry James Miller, B.A.....	Ashville
Aubrey Reck Moul, B.A.....	Columbus
George Dewey Nye.....	Waverly
John Raymond Pierce.....	Celina
Charles William Racine, B.A.....	Piqua
Harry Benson Reese.....	Wellston
Paul Lambert Selby.....	Haverhill

* Two Degrees

Altha Elmer Simmons.....	East Liverpool
Everett Ellsworth Simpson, B.A.....	St. Clairsville
William Valentine Slyker.....	Huron
Alonzo Everett Snyder.....	New Carlisle
Marion Edward Snyder, Ph.B. (University of Akron).....	Akron
Kenneth Thomas Stevens.....	Gillespieville
John Perry Teeple.....	Akron
Emerson Carl Wagner.....	New Lexington
Forest Eugene Weinrich.....	Vigo
Raymond Andrews Younger, B.A.....	Celina

(Forty-four candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF LAWS

As of the Class of 1921

Golden Norman Dagger, B.A.....	Columbus
--------------------------------	----------

(One Candidate)

COLLEGE OF MEDICINE

Dean: EUGENE F. McCAMPBELL

DOCTOR OF MEDICINE

*Sylvester Louis Agnone.....	Youngstown
Ward McGovern Athey, B.Sc.....	Columbus
Nelson LeRoy Barnett, B.A.....	Columbus
Albert Raymond Burkhart, B.A.....	Woodsfield
Leland George Coe, B.Sc.....	Garrettsville
Joseph Henry Cowan, B.Sc.....	Columbus
William Francis Drake, B.A.....	Columbus
Chester George Egger, Ph.G. (Toledo University), B.Sc.....	Toledo
Paul Schenck Fishbaugh.....	Mendon
Mabel Ensworth Goudge, B.A., A.M. (Dalhousie University), Ph.D. (Cornell University).....	Columbus
*Walter Harold Hamilton.....	Columbus
John Martin Hiss, B.Sc.....	Columbus
William Blake Hutchinson, Jr., B.A. (Western Reserve University) ..	Cleveland
Max Philip Kanter, B.Sc.....	Columbus
Maurice Milton Linder, B.Sc.....	Dayton
Gordon Frederick Meuser, B.Sc.....	Columbus
James Charles Pecl, B.Sc.....	Cleveland
Hudson Frederick Ross, B.Sc.....	Columbus
Loy Curtner Schiff, B.Sc.....	Columbus
George James Searle, Jr., B.Sc.....	Plymouth
Julius Shamansky, B.Sc.....	Nelsonville
Charles Francis Shonk, B.Sc.....	Lancaster
Clifford Bright Snider, B.Sc. in Agr., B.A.....	Columbus
Constantine Christopher Solomonides.....	Flassou, Cyprus
Jean David Spaid, B.Sc. in Edu., B.A., M.A.....	Columbus
Joseph Stanley Stevens, B.A.....	Columbus
Aaron Dewey Vogelsang, B.Sc.....	New Bremen

* Two Degrees

George D. Williams, B.A.....	Akron
Julien Harmon Wilson, B.Sc.....	Columbus
(Twenty-nine candidates)	

CERTIFICATE IN PUBLIC-HEALTH NURSING

Maude Dolby.....	Columbus
(One Candidate)	

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

DOCTOR OF MEDICINE

As of the Class of 1921

Wilbur Lee Ashton, B.Sc.....	St. George, Ga.
Paul Whitney Palmer, B.A.....	Columbus
Karl Dresbach Reichelderfer.....	Amanda
Daniel Galbreath Sanor, B.Sc.....	Columbus
Frank Frederick Schmidt, B.Sc.....	Columbus
(Five candidates)	

As of the Class of 1922

Lear Henry Van Buskirk, B.Sc. in Ch.E.....	Columbus
(One Candidate)	

CERTIFICATE IN PUBLIC-HEALTH NURSING

As of the Class of 1921

Eva Shapley Smith, B.Sc. in Edu.....	Columbus
(One Candidate)	

COLLEGE OF PHARMACY

Dean: CLAIR ALBERT DYE

BACHELOR OF SCIENCE IN PHARMACY

Raymond Joseph Albert.....	Columbus
Frank Dewey Brill.....	Salesville
Ralph Howard Crombie.....	Conneaut
Ralph Waldo Hoffman, M.D.....	Columbus
Frank John George Kern.....	Dayton
William Samuel Landau.....	Bellaire
Suie Lew.....	Canton, China
Lawrence Franklin Liebig.....	Canton
(Eight candidates)	

COLLEGE OF VETERINARY MEDICINE

Dean: DAVID STUART WHITE

DOCTOR OF VETERINARY MEDICINE

Walter Robert Baynes, B.S. (North Carolina State College) ..	Hurdle Mills, N. C.
Leonard Melvin Bilden.....	Northwood, N. D.
Moses Moore Dew, B.S. (North Carolina State College)	Wilson, N. C.
Frederick Emmet Ducey, B.S. (North Carolina State College) . . .	Portsmouth, Va.
Denton Henry Eastman.....	Abingdon, Ill.
Irineo Imperial Exconde.....	San Pablo, P. I.
Guillermo Fajardo.....	Columbus
Charles Cumming Fish.....	Tallahassee, Fla.

Pearl Clifford Fletcher.....	Cowden, Ill.
William August Hirsch.....	Chillicothe
Paul Wilson Jones.....	Dazey, N.D.
Claude William King.....	Seven Mile
Earl Bulger Leneker.....	Fort Plain, N. Y.
Hugh McKinley Lovett.....	Eureka, Kan.
Robert Lowell McClarren.....	Delta
James Russell Merrick.....	Columbus
Carroll Leroy Miller.....	Edgemont, S. D.
Graham Clement Monroe, B.S. (North Carolina State College)...	Council, N. C.
Arthur William Munson.....	Bismark, N. D.
Creighton Reason Nunn.....	Lees Creek
Sobey Okuyama.....	Togo, Japan
Carl August Pleuger.....	Cincinnati
Francis Howard Powers.....	Enderlin, N. D.
Knowlton Thomas Redfield.....	Big Island, Va.
Earle Franklin Sheffield.....	Richland, Mich.
Harry Clarence Stamen.....	Columbus
Sydney Franklin Stapleton.....	Columbus
Yoshihei Takehara.....	Shizuoka, Japan
Edward Glass Trigg.....	Columbus
Leonard Roy Twete.....	Columbus
Benjamin Richman Wade.....	Columbus
Seth Thomas Walton, B.S. (North Carolina State College)...	Jacksonville, N. C.
Samuel Ray White.....	St. Marys, W. Va.
Victoriano Madrid Zaratan.....	Aguilar, P. I.

(Thirty-four candidates)

PROFESSIONAL CERTIFICATES

CERTIFICATE OF PHARMACEUTICAL CHEMIST

Meek Gladden Ault.....	Akron
Helen Berko.....	Cleveland
Walter Dean Black.....	Jefferson
Lewis Benjamin Bowman.....	Columbiana
Clara Elizabeth Bryant.....	Columbus
Carl Brewster Cotner.....	McArthur
Hyman Deckelbaum.....	Cleveland
David Edward Eckert.....	New Philadelphia
Benjamin Joseph Gladstein.....	Cleveland
Spotwood McKinley Greene.....	Bellaire
Bella Gross.....	Cleveland
Ray Edward Hersh.....	Grand Rapids
Jacob Walter Imberman.....	Cleveland
John Barclay Israel.....	Morristown
Henry Allen Koontz.....	Columbus
Merit Ray Lehman.....	Payne
Howard Swayne Lindsay.....	Columbus
Henry Paul Mone.....	Columbus
Adrian Lester Morgan.....	Youngstown
LaVerne Morrison.....	Bluffton
Alan Posner.....	Cleveland

Joseph Prilutzky.....	Cleveland
Alice Lucile Ritchie.....	Brunswick
Henry Rosen.....	Cleveland
Nathan Harold Schwartz.....	Cleveland
Thaddeus Paul Sieg.....	Richwood
Stuart Clifford Spangler.....	Jackson
Paul Eugene Todd (As of the Class of 1921).....	Columbus
Carl Gustave Ulmschneider.....	Canton
Nettie Irene Wooley.....	Columbus

(Thirty candidates)

SUMMARY OF DEGREES

Graduate School.....	119	
Degrees conferred during year.....	19	138
College of Agriculture.....	154	
Degrees conferred during year.....	20	174
Applied Optics.....		5
College of Arts, Philosophy, and Science.....	259	
Degrees conferred during year.....	16	275
College of Commerce and Journalism.....	110	
Degrees conferred during year.....	14	124
College of Dentistry.....		17
College of Education.....	101	
Degrees conferred during year.....	18	119
College of Engineering.....	165	
Degrees conferred during year.....	4	169
College of Homoeopathic Medicine.....		7
College of Law.....	46	
Degree conferred during year.....	1	47
College of Medicine (29 degrees) (1 certificate).....	30	
During year (6 degrees) (1 certificate).....	7	37
College of Pharmacy (8 degrees) (30 certificates).....		38
College of Veterinary Medicine.....		34
		1184

Total degrees and certificates conferred on women.....	307	
Degrees and certificates conferred on women during year.....	28	335
Total degrees and certificates conferred on men.....	781	
Degrees and certificates conferred on men during year.....	71	852
		1184

Candidates for degrees and certificates.....	1159
Candidates receiving two degrees.....	25
Total degrees and certificates conferred.....	1184

APPENDIX VIII

RELIGIOUS CENSUS OF STUDENTS

1921-1922

Adventist.....	5	Lutheran.....	420
All Souls.....	1	Mennonite.....	3
Baptist.....	299	Methodist.....	2401
Bethany.....	1	Methodist Protestant.....	48
Buddhist.....	2	Moravian.....	5
Catholic.....	535	Nazarene.....	2
Christian.....	171	New Thought.....	2
Christian Science.....	82	Pentecostal.....	1
Christian Union.....	2	Presbyterian.....	1241
Church of Christ.....	203	Progressive Brethren.....	4
Church of God.....	1	Protestant.....	47
Community Church.....	24	Reformers.....	112
Congregational.....	340	Russellist.....	1
Covenanter.....	1	Spiritualist.....	2
Episcopal.....	326	Swedenborgian.....	2
Evangelical.....	90	Unitarian.....	16
Friends.....	19	United Brethren.....	145
Greek Orthodox.....	9	United Presbyterian.....	70
Gregorian.....	3	Undenominational.....	1
Jewish.....	330	Universalist.....	24
Latter Day Saints.....	2	None given.....	946

CENSUS OF OCCUPATION OF PARENTS

1921-1922

Accountants, bookkeepers, clerks, etc.....	210	Dairymen.....	16
Advertising.....	17	Decorators and painters.....	34
Architects and draftsmen.....	20	Dentists.....	43
Army and Navy.....	8	Detectives.....	3
Artisans.....	141	Druggists.....	46
Attorneys and judges.....	154	Editors and newspapermen.....	35
Auctioneers.....	1	Electricians.....	22
Bakers and confectioners.....	11	Engineers.....	186
Bankers.....	61	Farmers.....	1224
Barbers.....	18	Fish dealers.....	2
Blacksmiths.....	13	Florists, gardeners.....	64
Brokers.....	40	Foremen.....	84
Business men.....	93	Foresters.....	1
Butchers and meat dealers.....	27	Garage owners.....	8
Carpenters.....	97	Government, State, and city of- ficials and employes.....	219
Cartoonists.....	1	Grain and lumber dealers.....	70
Chauffeurs.....	1	Grocers.....	120
Chefs.....	5	Hotel and restaurant proprietors and employes.....	19
Chemists.....	7	Inspectors.....	34
Chiroprodists.....	2	Insurance.....	75
Clergymen.....	115	Iron workers, molders.....	72
Coal producers and dealers.....	19	Janitors.....	10
Contractors.....	189		

Jewelers.....	17	Publishers.....	12
Junk dealers.....	14	Railway, lake navigation, and street railway officials and em- ployes.....	222
Laborers.....	50	Real estate.....	120
Laundrymen.....	2	Retired.....	227
Lecturers.....	3	Salesmen.....	292
Librarians.....	1	Secretaries and treasurers.....	58
Liverymen and teamsters.....	12	Students.....	1
Livestock dealers.....	28	Superintendents and managers... 276	
Machinists.....	82	Superintendents and principals, (schools).....	32
Manufacturers.....	183	Tailors.....	53
Mechanics.....	75	Teachers and professors.....	130
Merchants.....	449	Telegraphers and telephone men.	19
Metallurgists.....	1	Theater.....	5
Millers.....	12	Transfer and storage.....	2
Mine operators and employes....	28	Undertakers.....	11
Musicians and artists.....	11	Veterinarians.....	12
Oil producers and employes....	48	Wholesale dealers.....	47
Opticians.....	9	Y.M.C.A. and social service....	23
Peddlers.....	1	Mothers.....	684
Photographers.....	4	None given, deceased, and guar- dians.....	771
Physicians and surgeons.....	226		
Plasterers.....	1		
Plumbers.....	21		
Printers.....	27		

ENROLLMENT IN OHIO BY COUNTIES

1921-1922

Adams.....	8	Franklin.....	2747	Madison.....	45
Allen.....	57	Fulton.....	30	Mahoning.....	117
Ashland.....	27	Gallia.....	21	Marion.....	64
Ashtabula.....	65	Geauga.....	9	Medina.....	66
Athens.....	35	Greene.....	36	Meigs.....	24
Auglaize.....	47	Guernsey.....	51	Mercer.....	28
Belmont.....	91	Hamilton.....	84	Miami.....	61
Brown.....	15	Hancock.....	44	Monroe.....	32
Butler.....	67	Hardin.....	34	Montgomery.....	179
Carroll.....	9	Harrison.....	38	Morgan.....	24
Champaign.....	39	Henry.....	12	Morrow.....	27
Clark.....	72	Highland.....	34	Muskingum.....	79
Clermont.....	21	Hocking.....	22	Noble.....	17
Clinton.....	27	Holmes.....	13	Ottawa.....	22
Columbiana.....	67	Huron.....	48	Paulding.....	19
Coshocton.....	44	Jackson.....	28	Perry.....	42
Crawford.....	56	Jefferson.....	54	Pickaway.....	47
Cuyahoga.....	599	Knox.....	50	Pike.....	15
Darke.....	67	Lake.....	46	Portage.....	41
Defiance.....	20	Lawrence.....	32	Preble.....	26
Delaware.....	56	Licking.....	105	Putnam.....	25
Erie.....	50	Logan.....	40	Richland.....	54
Fairfield.....	87	Lorain.....	90	Ross.....	67
Fayette.....	31	Lucas.....	113	Sandusky.....	37

Scioto.....	53	Warren.....	28	Vinton.....	13
Seneca.....	54	Washington.....	35	Wayne.....	45
Shelby.....	26	Tuscarawas.....	60	Williams.....	41
Stark.....	114	Union.....	43	Wood.....	48
Summit.....	106	Van Wert.....	40	Wyandot.....	21
Trumbull.....	63				

ENROLLMENT BY STATES AND FOREIGN COUNTRIES

1921-1922

Alabama.....	5	Mexico.....	1
Argentine Republic.....	4	Michigan.....	15
Armenia.....	1	Minnesota.....	7
Brazil.....	1	Mississippi.....	2
California.....	4	Missouri.....	5
Canada.....	1	Nebraska.....	2
China.....	22	New Jersey.....	9
Colorado.....	7	New Mexico.....	1
Connecticut.....	4	New York.....	40
District of Columbia.....	12	North Carolina.....	8
Florida.....	5	North Dakota.....	6
France.....	2	Ohio.....	7386
Georgia.....	5	Oklahoma.....	9
Greece.....	3	Orange Free State.....	2
Hawaii.....	3	Oregon.....	1
Idaho.....	2	Pennsylvania.....	75
Illinois.....	18	Peru.....	3
India.....	5	Philippine Islands.....	23
Indiana.....	66	Porto Rico.....	2
Iowa.....	9	South Dakota.....	2
Japan.....	7	Tennessee.....	2
Java.....	1	Texas.....	8
Kansas.....	2	Vermont.....	2
Kentucky.....	25	Virginia.....	11
Korea.....	4	Washington.....	2
Louisiana.....	1	West Virginia.....	71
Maryland.....	4	Wisconsin.....	4
Massachusetts.....	12	Wyoming.....	3

